# Leonore

*Art, Science, and Statecraft*

2022



# On the Cover:

John F. Kennedy's official portrait, painted posthumously by Aaron Shikler in 1971.

Shikler's decision, advised by Jacky Kennedy, to paint the former president with his eyes bowed and with a contemplative rather than a proud look, indicates something of the quality which Kennedy imparted to those around him. "[E]verybody goes after the eyes," Shikler told the *Washington Post* in 1971, "I wanted to do something with more meaning. I hoped to show a courage that made him humble."

Perhaps the most significant event during Kennedy's administration was the Cuban Missile Crisis of October 1962, where the humility of the President likely saved mankind from what would otherwise have been an early thermonuclear extinction. Given the events of late, it is important to reflect on this profound quality, as the world confronts what is an equally, if not far more perilous situation, today.

## Mission Statement

It has become increasingly clear that the creative output of our organization is not only good, but vitally necessary for a successful upshift of humanity. We seek to incorporate art, science, and statecraft as a single force of discovery, which is humanity's true power and best defense against empire.

Under that direction, we want *Leonore* to be an organizing tool for the youth of the world. Pedagogies and polemics should be presented using LaRouche's polemical method and will be organized according to a top-down strategic intervention, giving special regard to insights into the axioms we encounter in political organizing.

# Leonore

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Father of modern science and of the nation-state, Nicholas Cusanus wrote this letter in the final weeks of his life. It has been called his "religious last will," and we are pleased to present here the first ever english translation

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# Editorial

*The principal cause for the doom of any culture, is that mental disorder typical of popular opinion, which is to assume the validity of any assumptions currently adopted by a learned profession, or religious teaching, or more crudely adopted as 'generally accepted popular opinion.' So, as a foolish class in geometry always returns, directly, or indirectly, to the assumed authority of some set of unquestionable definitions, axioms, and postulates, a foolish people seeks the comforting authority of those same false, axiomatic delusions which, if continued long enough, will send that society plunging into self-inflicted ruin.*

– Lyndon H. LaRouche, Jr., "The Historical Individual," October 20, 2002

Is there not a potential among youth in the so-called "Western nations," to respond to the proposals of Russia, China, and the BRICS+ nations generally, for a new, just world economic order, and thereby to change human history? Or should we submit to the popular opinion, that the United States and its NATO-member "allies" are fundamentally unable to change? An opinion held as dear by the brutal guardians of the "rules-based order," futilely grasping as their system collapses, as by many in the self-declared "opposition," who nurse a sickly-sweet cynicism, comforting only to the individual who has already abandoned his or her own spiritual existence.

Hunger is washing over the globe, with the annual UN food report, released July 6, 2022, finding that 2.3 billion people suffered from moderate or extreme food insecurity in 2021. That figure includes 45 million children under the age of five suffering from "wasting," "the deadliest form of malnutrition, which increases children's risk of death by up to twelve times." A United Nations Development Programme report found that inflation caused 71 million people to fall into extreme poverty during the three months of April-June, 2022. The World Bank estimates that 80 nations need debt relief immediately, or they will not be able to import the food and energy commodities needed to keep their populations alive. Farmers in nations across Europe are protesting the willful destruction of their ability to produce, brought on by Green policies and the casino economy.

Meanwhile, a nuclear war provoked by NATO is at the threshold, fully equipped to extinguish all of human existence and achievement–every coo an infant ever gave, every sonnet Shakespeare ever wrote.

Should our species overcome this crisis, it will surely have required that some unknown power, some yet unrealized capability, be marshaled from the youth of all nations who will of necessity lead the coming era. We raise the call, in the pages of this magazine, for that power to emerge. A call we feel we are qualified to make, because of our understanding of the ideas of Lyndon H. LaRouche, Jr.

The axioms that control the Transatlantic financial oligarchy–the belief in limited resources, in geopolitics, in monetarism–require that the sacred quality of the human individual life be obliterated from social existence. And yet, Lyndon LaRouche insisted that human creativity comes "out of the blue." It is precisely in this darkest period of what is called Western civilization, a period in which the spiritual quality of Platonic hypothesis has been blotted out in the records of science and culture, that a Renaissance can succeed–because it must. Leaders of giant courage and insight now steer Eurasian nations toward a new era of peace through development, one forecast by Lyndon LaRouche, as in his 2005 book, "The Earth's Next Fifty Years." We must now enter an era in which Mr. LaRouche's unique contributions to the science of physical economy–the science of the human mind–empower humanity to overturn once and for all the fraudulent axiomatic basis of the Satanic neoliberal system. Join us in creating such a world.

– Daniel Burke, Co-editor

# Join the Schiller Institute!



The Schiller Institute is committed to sparking a new, international Renaissance of classical humanist thinking. This in no way entails dry and academic issues, but vibrant, fresh, and *controversial ideas* which we believe are requisite in order to catalyze the types of creative discussion that will allow the human species to survive. *Leonore* is an expression of that, and you will find here contributions of art, science, and statecraft which we hope will either agitate or inspire you enough to join us.

So don't just read these pages passively—participate! We have group readings, meetings, and conferences, and are actively intervening into a world that has never needed these kinds of ideas more. Also, send us your responses to what you read at Leonore@SchillerInstitute.org—we just may publish it in the next issue

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# The Historical Individual

## By Lyndon LaRouche

*This article was originally released by the LaRouche in 2004 Presidential Campaign Committee on October 20, 2002. We republish it here due to the incredible relevance for the crisis the world is facing today.*

In a time of crisis, like today's, the typically failed political leader is like the narcissistic actor who poses for his audience, from on stage, or on camera, while gloating, *sotto voce*, "Look at me!" He is more or less indifferent to the reality of the circumstances under which he postures; the objective of his performance, is, like that of a prostitute prowling the tawdry street, merely seduction. In contrast to such pathetic creatures as that, the great Classical actor thinks and acts as one from the ancient Classical Greek stage, revealing the character he plays, by speaking from his place of concealment from behind a mask. As Shakespeare's character Chorus warned the audience, at the onset of *King Henry V*, see what you hear performed on today's stage, not by looking at the images on the poor stage of that theater, but upon the nobler, supernal stage of your imagination. Shakespeare's Chorus gave the audience a knowing look, which forewarned them, silently, that when the play had ended, they would be astonished to be returned from the grandeur of the imagination, to see, then, where Chorus had stood, those actors who are not the roles which they had just played.

So, in life, as on the Classical stage, so does the truly great statesman do, as Benjamin Franklin, Abraham Lincoln, and Franklin Roosevelt did, and so did the historical, sublime Jeanne d'Arc or Rev. Martin Luther King, Jr. When such real-life actors as these appeared no more on the transient stage, the soul of such exceptional leaders lived on, unseen, immortal, more powerful in death than in life before. The Classical artist, as actor, or composer, is a copy of such exceptionally great political leaders as those. He or she is a model, who teaches the people and their proper leaders the art of imparting to the imagination of an audience, what the poet Shelley identified as profound and impassioned conceptions respecting man and nature. It is by this same standard required for the exceptional political leader, that the performance of that artist, as an artist, is to be judged. I explain.

During each tragic moment of great crisis, every nation, every culture is gripped by the need for a sudden and profound change in its quality of leadership. Its survival then depends upon its willingness to choose a new quality of leadership which is typified by those extraordinarily exceptional individuals who stood, in retrospect




*"The would-be, 'practical' leader, who seeks approval from the authority of prevalent populat opinion before acting, is, like Hamlet, a menace to his nation."*

like immortal souls, apart from, and above mere popular taste of their time. Throughout all the future history of mankind, as during the past, this presence, or absence of the determining role of the exceptional individual will always be, as it has always been, one of those milestones which mark those pathways of choice, toward either serenity or self-destruction, choices which close in on every culture at its moments of such great, self-inflicted peril as we face today.

In the following pages, I shall show, that, as in great Classical tragedies portrayed on stage, in such times as this present moment, a moment of imperilled European civilization as a whole, the nation whose people abhor the exceptional individual in favor of popular opinion, is already doomed to be brought down: brought down, like foolish Romans drunk from their cheering for the popular mass entertainments of the Colosseum then, or foolish audiences at today's football stadium, rock concert, or video orgy, a people doomed by its own habituated, popular, inherently tragic misbelief in comfort and pleasure. In the course of future history, the only likely improvement over that record of the rare contribution by the exceptional personality, will never be more than, hopefully, a greater number of such exceptional individuals than what is the unfortunately rare individual active in our imperilled nation today.

> **"The ugliest tragedies are more often the fateful outcome of adhering to a flawed tradition, than violating it..."**

The greatest peril of any crisis-wracked nation, such as our own, is a proliferation of moral mediocrities, or worse, mediocrities occupying the leading places where intellectual and moral giants are needed. Such is the choice provided now, between the opportunity, or doom awaiting the U.S.A., in particular, at the present moment of global crisis. So, over the thousands of years of that European history sprung, as the child of Egypt, from ancient Greece, the role of the exceptional individual, has been the subject-matter of those great legends, tragic histories, and dialogues, which reflect the record of mental life of entire cultures from our past. The great Classical historians, such as Aeschylus, Plato, Shakespeare, Lessing, and Schiller, have set the real-life choice between what are named *the tragic* and *the sublime* on stage. Now, it is, once again, the turn of our nation, and you, the people who live within it, which waits to be judged by future audiences, when your tale, in turn, is relived upon that same Classical stage. Our nation has a choice; you must choose your leaders accordingly. Tragedy, or triumph: which shall it be? There is nothing magical in that choice. The choice can be a clear and rational one, if you are willing, unlike the failed Denmark of Shakespeare's *Hamlet*, to see it so. I explain.

## Where Does True Imagination Dwell?

Properly spoken, names for what Schiller defined as the *sublime*, like *spirituality*, *immortality*, *the imagination*, and *truth*, refer to ennobling experiences which occur only among human beings, never to lower forms of life. The human individual is awarded a natural power to know these higher conditions of experience, if he, or she uses it. Unfortunately, so far in history, few of us have ever actually come to develop our innate power to know the reality to which those specifically human qualities refer. Most entrap their sense of personal identity within the prison of an ivory-tower delusion, such as the goldfish-bowl-like mental prison of the empiricist or Cartesian, who knows actually nothing of the real world, knowing only the images on that screen where the delusions called sense-certainty are displayed, and felt. In times of great crisis, society will be saved only if leadership is given to those relatively few free souls among us, to certain from among those "ugly ducklings" whom fools call "eccentrics."

The indispensable leaders for such times, are those who have succeeded, from early in childhood, in letting ourselves be taken over by that natural potential for the sublime. Those who have kept good faith with that po-




*The Antikythera Mechanism, 150–100 BC, A century of examination has revealed its assembly of precision gearing, which charted heavenly motions and predicted eclipses with precision*

tential, born within each of us, are, therefore, the only qualified leaders of nations for such times. They are, therefore, *exceptional*. Within the ancient to present span of today's globally extended European civilization, one name, that of Plato, is best known for understanding this distinction of the exceptional, Socratic figure in society. For this reason, Plato's dialogues are sometimes identified as *spiritual exercises*. All discoveries of what are experimentally validated as *universal physical principles*, such as



Johannes Kepler's uniquely original discovery of universal gravitation, were produced as the fruit of that method of *hypothesis* expressed by the Platonic dialogue.

The relevance of this for defining the exceptional individual, is elementary. Plato supplies many examples. The human sensory experiences are an expression of the working relationship of the sense organs to a central nervous system. What we learn through our sense-experience, is the power to recognize a certain effect of the universe's actions upon those sense-organs. What we perceive in this way, is not reality, but the mere shadow of the effect of actions by the real, unseen universe, chiefly from outside our skins, on the sense-organs embedded within our living biological organism. Therefore, in his *Republic*, Plato compares sense-experience to shadows cast on the walls of a dimly firelit cave. So, the Apostle Paul writes to the same effect in I Corinthians 13. However, the human mind has an experimentally provable power which is superior to mere biology, a quality called *the power of reason*, a higher power which is unique to the members of our species.

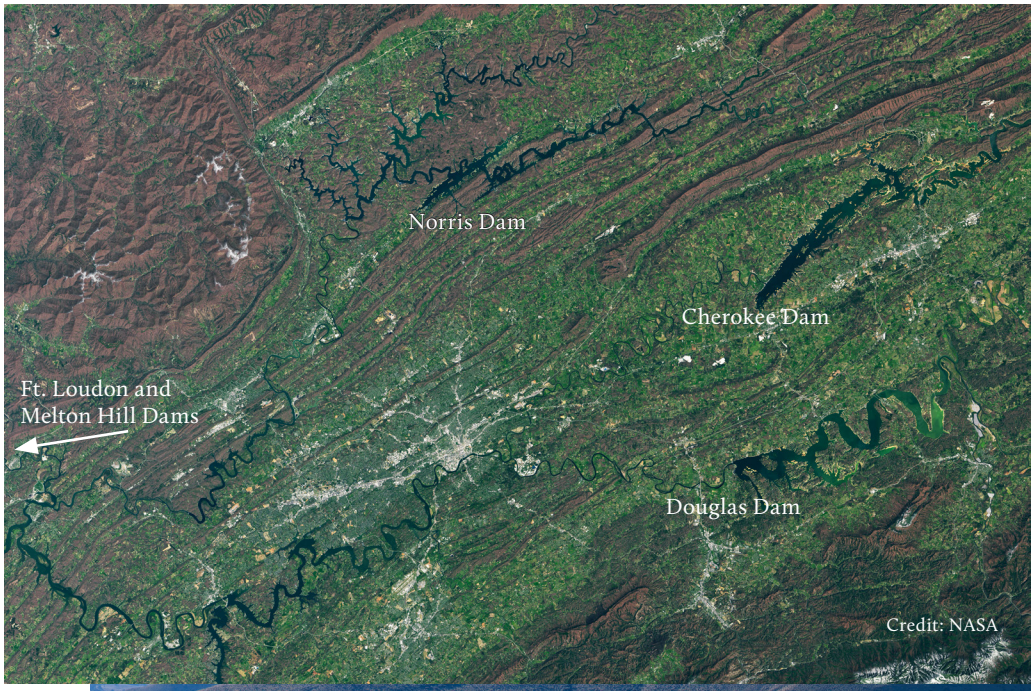
This power is also known as *the power of hypothesizing*. Through this power, we are equipped to discover what can be recognized by societies as *universal physical principles*, *hypotheses* whose validity can be demonstrated by those same, suitable forms of experiment displayed in the span of Kepler's *New Astronomy*.[1] Such principles could never be seen by the senses, just as our unaided senses could never perceive the interior of an atomic nucleus; but, once we have proven the principle, we are able to apply that principle to make provable, efficient changes in the real, but unseen world outside our sense-perceptual powers. In modern times, ingenious use of scientific progress enables us, more and more, to compensate for even the nearly full impairment of faculties of seeing, hearing, touch and so on. The famous case of Helen Keller illustrates the principle involved: the loss of sensory faculties does not lessen the innate power of the human mind to know the universe even by artificial substitutes for sensory organs.

It is with the mind's *spiritual* power of hypothesis, not sense-certainty, that man knows the universe. This view of the efficiency of the experimentally grounded power of hypothesis, defines a real universe, a higher universe, be-

1 This power of reason is otherwise named natural law, as opposed to *a merely positive law*. Kepler's process of uniquely original discovery of a universal physical principle of gravitation, as presented autobiographically in his *The New Astronomy*, is an example of the process of natural law. Leibniz's uniquely original discovery of a universal physical principle of least action, and Gauss's 1799 announcement of his uniquely original discovery of the fundamental theorem of algebra, are also examples.

yond the shadowy illusions of a shadow-world of sense-perception. As for the case of Helen Keller's remarkable education, this real world is fairly described as *the universe of the scientific imagination*. It is the world of that *scientific truthfulness* which should always be the scientist's working approximation of *truth*. It is persons whose minds dwell consciously in that real world of truth, beyond illusory sense-certainty, which are the *exceptional* ones whom we may recognize as the great true Classical scientists in the tradition of Plato, such as Leonardo, Kepler, Leibniz, and Gauss, the great Classical artists such as Bach and Beethoven, and the great leaders for the perilous times of great crisis.

In the legacy of the Biblical Moses, this power of reason, this power of hypothesis, which is otherwise knowable as the quality of *spirituality*, defines man and woman equally as made in the image of a personality known as the Creator of the universe, and as given powers and responsibilities akin to His. Before we come to politics, I must explain the significance of this for physical science, as follows.







*"These spiritual powers expressed as hypothesizing, are the Classical domain of the true, the efficient imagination which acts, through our intention, to change the universe which we inhabit." Above: the Tennessee Valley Authority, begun in 1933, which was responsible for the construction of over a dozen dams throughout the Tennessee Valley area, and brought abundant hydroelctric power, flood control, and reliable water irrigation for life. Below: crop irrigation circles in Texas.*

## The Lesson of the Noösphere

Vladimir I. Vernadsky, like Mendeleyev, one of the exceptional scientific geniuses of modern Russia, was the first to present adequate definitions of what he named, respectively, the *Biosphere* and *Noösphere*. He combined his own work in the field known as biogeochemistry, with the discoveries of Louis Pasteur and Pasteur's successors, to define a universal principle of life more sharply, as a universal class of physical principle, one distinct from the physical chemist's experimental definition of non-living processes. He defined that experimentally exhibited, increasing influence over the non-living processes of our planet, as presenting us with a *Biosphere*.

Using the same experimental method, Vernadsky demonstrated that the principle of discovery of universal physical principles, which occurs only within the mind of the human individual, exerts a power to change the Biosphere itself, as it were from the outside. Since these powers of the human create principled effects not otherwise existent, such powers are not only physically efficient; they are universal physical principles. Since these princi-




*"Sooner or later, the continued toleration of such flawed sets of implied axiomatic assumptions, brings the conflict between society and nature to a condition approaching an existential crisis."*

ples exist efficiently, but outside the bounds of sense-certainty, they are a quality of *physically efficient, spiritual powers*, specific to the human mind, and efficient in their power over what is thought of as the material universe.

This defined the *Noösphere*. In broader terms of reference, Vernadsky's conception of the Noösphere was not an entirely new conception of the way in which the universe is organized. For example, I had adopted a similar conception of the general, categorical organization of our universe during late adolescence, that as a product of my personal defense of Leibniz's *Monadology* against Kant's *Critiques*. Vernadsky's notion of a Biosphere had been a legacy of a Classical Greek conception of a *hylozoic* universality, a notion also inherent in the work of Plato. Plato's dialogues, notably the *Timaeus*, define that hylozoic universe as bounded by a still higher, physically efficient, *spiritual* power, one corresponding to human reason; that already implied what Vernadsky named the Noösphere.

The crucial difference is, that Vernadsky's thorough development of the experimental notion of biogeochemistry to the point of defining a Biosphere experimentally, provided the empirical-scientific basis for also defining a Noösphere in a similar way. These *spiritual* powers expressed as hypothesizing, are the Classical domain of the true, the efficient *imagination* which acts, through our intention, to change the universe which we inhabit.

These discoveries presented Vernadsky with two additional challenges which he was not able to solve within any of the relevant known writings produced by the close of his life. First, since discoveries of principle are generated only within the sovereign bounds of an individual human mind's *cognitive* (hypothesis-generating) processes: by what principles are such ideas transmitted among the individuals within society, and from one society to another, as in a Classical-humanist mode of education? Second, if such cognition is an efficient mode of physical action on the universe, what is the corresponding, Gauss-Riemannian physical geometry of that universe, that it permits the efficiency of such creative action by human cognitive powers to change the universe? I have presented the essential principles which point to the answers to those two questions, in other published locations. The exceptional individual suited to serve as a leader in a time of crisis, differs from the usual political figure in a specific, and usually fundamental way. I explain.

## Why Leadership Is Indispensable

Although what is called a classroom Euclidean geometry, is less false than a customary classroom arithmetic, it conditions the misled mind of the student to accept a falsified, science-illiterate's notion of the world of space, time, and matter. A Euclidean geometry is an attempt to explain the phenomena of sense-certainty in a way which is consistent with the way in which the poorly developed mind foolishly mistakes sense-certainty for physical reality. Nonetheless, the geometry of Euclid's *Elements* contains, in part, useful reports of certain stubborn internal contradictions, reports which we have received from ancient Classical Greeks of the tradition from Archytas and Plato to Eratosthenes and Archimedes.

These contradictions, which include the implications of constructing a doubling of the square, and the cube, and the physical implications of what are called the Five Platonic Solids, lead toward modern discoveries in a physical geometry existing outside the bounds of either a childish counting-number arithmetic, or a Euclidean or like sort of ivory-tower (*a priori*) geometry.

A modern appreciation of this work from Classical Greece's history, is identified, typically, by five principal categories of discoveries by modern European science:

Kepler's discovery of universal gravitation; Fermat's discovery of a principle of quickest time, as opposed to shortest distance; the combined effect of the work of Huyghens, Leibniz, and Jean Bernouilli, as expressed in Leibniz's uniquely original discovery of the calculus and the associated "quickest time" principle of the true infinitesimal and the elementary catenary form of universal least-action; Gauss's first, 1799 report of his uniquely original discovery of the fundamental theorem of algebra; and, Riemann's continuation of Gauss's 1799 an-



*"So, as Shakespeare's Horatio warns, even as dead Hamlet is carried from the stage of the same continuing, habituated cultural folly, he doomed not only himself, but the kingdom whose customary folly he had followed into death."*

nouncement in his 1854 definition of the universal principles of a physical geometry.

These five, sampled sets of discoveries point to the basis for my own original discoveries in a branch of science founded by Leibniz, the science of physical economy. The application of the science of physical economy, so situated, to the notion of the Noösphere, provides us a sense of the kind of anti-Euclidean geometry[2] which we must employ, for a modern understanding of that real universe which exists beyond naive sense-certainty. That corrected, Riemannian view of a Noösphere, provides us a conceptual framework, within which to examine the differences between the actual behavior of a society, and notions consistent with a Riemannian form of Noösphere.

This approach enables us to conceptualize the problem posed by the pathological effects of some among the implicitly axiomatic assumptions of currently prevalent popular opinion. Those pathological effects, we then treat as the characteristic, *systemic* pathologies of that culture. This approach to assessment of political-economic systems, has been the source of my unmatched success in published, long-range economic forecasting during the recent thirty-five years.

Although the potentially fatal systemic disorders of currently prevalent U.S. popular and other leading opinion, are not limited to the increasing, axiomatic follies of current, post-1964 U.S. economic policy of practice, all of the important such axiomatic disorders, economic or other, may be, and must be correlated with the specifically political-economic follies. To provide the reader a fair view of the relationship of the exceptional leading individual to today's U.S. existential crisis, focus upon the 1964-2002 process of unfolding transformation of the U.S.A. from its earlier characteristic as the world's leading producer society, to its 1964-2002 progressive decadence as a "post-industrial" consumer society, a society in imitation of such respectively ancient and medieval models of imperial maritime powers as Rome and Venice.

The potentially fatal systemic conditions of social-political systems, such as that of the 1964-2002 U.S.A. today, are expressed by fundamental errors of assumption which underlie the way in which a society stumbles, more or less unwittingly, into making its choices of action, and inaction. Sooner or later, the continued toleration of such flawed sets of implied axiomatic assumptions, brings the conflict between society and nature to a condition approaching an existential crisis. It must then, like the U.S.A. today, alter its implied set of axioms, or collapse. This is the condition of crisis from which only the society's acceptance of the leadership of an exceptional individual can rescue that nation.

So, Hamlet's foolish adherence to his Denmark's ruling custom doomed the Denmark of that tragedy, as Wallenstein's failure to defy his oath for the sake of natural law, his failure to overturn the Habsburg order, condemned Europe to more than a dozen horrible years of a continued religious war.[3] Hamlet's folly was that, in the end, as he confesses in the Third Act soliloquy, he, like his Denmark of that time, adhered to that custom by which it destroyed itself. So, as Shakespeare's Horatio warns, even as dead Hamlet is carried from the stage of the same continuing, habituated cultural folly, he doomed not only

2 To the best of my information so far, the concept of an "anti-Euclidean, rather than "non-Euclidean" geometry was introduced by one of Gauss's two principal teachers, Abraham Kästner. In fact, Gauss's discovery of a mathematical form of anti-Euclidean geometry, is reflected in his 1799 publication of his original discovery of the fundamental theorem of geometry. The discoveries of Lobachevsky and Janos Bolyai, are rightly distinguished from Gauss's and Riemann's anti-Euclidean geometries as "non-Euclidean" geometries, which amend, rather than overthrow Euclidean geometry.

3 Friedrich's Schiller's account in his *Wallenstein* trilogy, makes that same point, as does his earlier treatment of the essentials of actual history, in his *Don Carlos*.

himself, but the kingdom whose customary folly he had followed into death.

So, in a later time, the German generals replayed the folly of Shakespeare's Hamlet, and Schiller's Marquis de Posa or Wallenstein, in betraying Hitler's adversary, Chancellor von Schleicher, in the events of January 28-30, 1933, and, again, in the events of Summer 1934. For this, the institution of those generals paid dearly in July 1944, as the foolish Kaiser Wilhelm and his nation had played the fool, in backing the foolish Habsburg Kaiser, in Summer 1914. In these, and many, many cases in actual history, the ugliest tragedies are more often the fateful outcome of adhering to a flawed tradition, than violating it in that timely way consistent with that higher authority which is the same natural law invoked by the United States on July 4, 1776.



*"What is 'imaginary' is the... form of 'ivory tower' geometry, which sees only shadows of a real, physical geometry, not the physical substance which the shadows reflect."*

For the uses of modern science, including economic analysis, Gauss's 1799 report of his fundamental theorem of algebra, founds a modern mathematical form of anti-Euclidean geometry, by a devastating attack on the empiricist follies of D'Alembert, Euler, and Lagrange. That latter trio had dedicated their careers to defending, as Descartes had done, a pro-empiricist reading of the first nine books of Euclid's *Elements*, by sundry, fraudulent denials of the real existence of what they foolishly and fanatically deprecated as "imaginary numbers." Gauss successfully addressed the same problem which those leading empiricist mathematicians refused, axiomatically, to comprehend, the so-called "Cardan" paradox. Gauss recognized what ancient Greek scientists, including Archytas, Plato, and Eratosthenes, had defined as that physical principle of construction, the which is expressed by solutions for paradoxes such as the construction of a doubling of the square, and of the cube, and the Platonic solids.

Gauss recognized the same notion of physical *powers* cited by Plato for the case of the doubling of the square. Gauss showed this again, thus situating, in algebra, what Leibniz and Bernouilli had shown in their treatment of the catenary's reflection of a principle of universal least action, and also in their showing of the related significance of natural logarithms. These mathematical paradoxes reflected the natural, *physical* geometry of what Gauss defined as the complex domain, outside the unnatural, "ivory tower" mathematics of the celebrated mathematicians Euler and Lagrange.[4]

Gauss's work provides the basis for a general understanding of formal mathematics from the standpoint of experimental physical science, rather than an "ivory tower" (*a priori*) approach to so-called "pure" mathematics. This approach is necessary for a successful scientific

4 The following matter is of such relevance for the topic being developed here, that the following notes are implicitly required. Gauss's pioneering in the anti-Euclidean geometry of his teacher Kästner, dates from 1792, and plays a crucial part in the work leading to the 1799 publication of the discovery of the fundamental theorem of algebra. Unfortunately, the tyrant Napoleon Bonaparte's designation of Lagrange as Napoleon's favorite, occurred shortly after the 1799 publication of Gauss's first paper on the complex domain. The British appointment (e.g., by the Duke of Wellington) of London's asset, the despicable French Restoration monarchy, continued the published, fraudulent attack on Gauss of the then-deceased Lagrange; this anti-Gauss policy was continued under the predominant control of the hoaxsters Laplace and Cauchy. On the continent of Europe generally, as in Hannover, conditions did not improve until the 1840s. Gauss himself did not reference the anti-Euclidean implications of his 1799 paper, until qualified references, confidentially, to Janos Bolyai's work (1832) in his correspondence with Wolfgang Bolyai, and, quasi-publicly, in later correspondence on the matter with C. L. Gerling (e.g., 1844) and H. C. Schumacher (e.g., 1846). Thus, in Gauss's later reports on the fundamental theorem, Gauss was prevented, politically, from referencing his 1799 attacks on Euler's and Lagrange's follies. The truth of the anti-Euclidean implications of the 1799 announcement was first brought clearly to the surface by the 1854 *Habilitationschrift* of Gauss's protégé Bernhard Riemann, *Über die Hypothesen, welche der Geometrie zu Grunde liegen*. Riemann there traced the premises on which his own definition of an anti-Euclidean (*not non-Euclidean*) physical geometry rested, as to the relevant Gauss work on biquadratic residues, and Gauss's work on the general principles of physical-space-time curvature. The paradigmatic metric of the complex domain, as defined by Gauss-Riemann, is the catenary-keyed notion of a universal principle of a quickest pathway of physical least-action, as had been developed jointly by Leibniz and Jean Bernouilli.

treatment of any measurable physical feature of a modern political-economy. This conceptual approach permits the development of reasonable measurements of growth or collapse of the physical economy of a nation, or group of nations. This conceptual approach requires emphasis on study of medium- to long-term cycles in creation and depletion of physical capital improvements over the medium to long term.

As I have demonstrated repeatedly, by my uniquely consistent success in long-range economic forecasting over recent decades to date, that view of capital cycles, is indispensable for defining the systemic characteristics of modern economy over the medium to long-term span. So it is, that scientific progress depends upon the application of experimentally validated discoveries of universal physical principle, discoveries which never occur except as the work of an individual discoverer's sovereign powers for hypothesizing. So, the same quality of creative powers of the exceptional individual within society, provides the corrective changes in ways of thinking, the quality of exceptional leadership on which the survival of a self-imperilled nation or culture repeatedly depends. I explain.

## The Politics of the Complex Domain

The complex domain, as defined by the pioneering work of, chiefly, Gauss and Riemann, presents us with a physical geometry of real powers, a real universe, counterposed to the mere shadow-world of naive sense-certainty. What is "imaginary" is the Euclidean, or quasi-Euclidean form of "ivory tower" geometry, which sees only shadows of a real, physical geometry, not the physical substance which the shadows reflect. Nonetheless, in any competent understanding of the origins and cure of systemic crises, such as the world's self-inflicted, presently onrushing monetary-financial collapse, the cause of that calamity is the false assumptions which are implicitly valued, socially, politically, to possess the authority of axioms, that function approximately as if they were real axioms of an actual universe.

Therein, in such intermingling of combined valid and false, popular assumptions, lies the cause for those qualities of systemic crises which sometimes bring about the extinction of once-powerful empires such as those of Biblical Belshazzar's Babylon and Rome. A critical study of the pathological features of a Euclidean geometry helps the student's development of insight into the relevant characteristics of systems premised on an assumed *a priori* set of deductive definitions, axioms, and postulates, such as those of a Euclidean deductive ("logical") system of theorems and corollaries.

Study of the falsehoods inhering in any such deductive system, is key for understanding the pathologically systemic states of general belief responsible for self-inflicted cyclical-systemic crises, such as that rather immediately threatening the early disintegration of the U.S.A. today. The principal cause for the doom of any culture, is that mental disorder typical of popular opinion, which is to assume the validity of any assumptions currently adopted by a learned profession, or religious teaching, or more crudely adopted as "generally accepted popular opinion."

So, as a foolish class in geometry always returns, directly, or indirectly, to the assumed authority of some set of unquestionable definitions, axioms, and postulates, a foolish people seeks the comforting authority of those same false, axiomatic delusions which, if continued long enough, will send that society plunging into self-inflicted ruin. The Romantic tradition of *vox populi*, which was the underlying mechanism of ancient Italy's self-inflicted doom, is an example of this form of mental illness on a mass scale.

The pathological system of Immanuel Kant, which Kant crafted as an argument against the existence of knowable truth, should be referenced because it exposes the pathological type of mental mechanisms by which a pathological state of tradition may bring even a once-powerful culture to ruin. For this purpose, I refer to the defense of irrationalism, under the rubric of "the negation of the negation," which Kant features, under the sectional topic of "The Dialectic of Practical Reason," in his *Critique of Practical Reason*. Kant, who, throughout his writings, rejects the existence of truth as a matter of principle, argues that the victim's acceptance of society's repression ("negation") of impulses to which it objects (as "negative"), produces a "positive" impulse consistent with the society's imposed "morality."

This generation of a positivist ethical impulse, by "negation of the negation," serves as Kant's proposed alternative to truth.[5] In the writings of the follower of the positivist fanatic, Ernst Mach, Dr. Sigmund Freud, we meet the same doctrine of "repression," but expressed in a muddier, and also smuttier form than in Kant's original.

5 Kant's referenced argument takes its included origins within earlier, medieval European history from such sources, as the doctrine of the "elect" associated with the neo-manichean, Cathar cult whose influence infected the regions centered upon the axes of the Garonne and Rhône. That Cathar tradition was exploited syncretically by Venice's Paolo Sarpi in launching the cult of empiricism, of Francis Bacon, Galileo, Thomas Hobbes, et al. In the later "Enlightenment" phase of empiricism, that of John Locke, Bernard Mandeville, François Quesnay, Hume, Adam Smith, and the utilitarian Jeremy Bentham, the neo-manichean irrationalism of the Cathars assumed such forms as the doctrine of "the Invisible Hand."

Kant is, unfortunately, correct in describing the widespread apparent effect upon the people of defective cultures. Kant's substitution of such pathologically induced lack of belief in truthfulness, is that pervasive moral corruption of national cultures which fosters such a society's cyclical-like descent into systemic, potentially fatal crises of national and broader cultures.

On this account, the exceptional political leader who rescues his people from the precipice of self-inflicted cultural collapse, performs a function which expresses the same characteristics as the discovery of an experimentally validated universal physical principle. Rather than arguing for remedies within the bounds of the generally accepted culture which threatens to destroy that nation, the valid leader for a time of such crisis, does exactly what Shakespeare's self-doomed Hamlet refused to do:

> ...Who would fardels bear,
> To grunt and sweat under a weary life,
> But that dread of something after death,—
> The undiscovered country, from whose bourn
> No traveller returns,--puzzles the will,
> And, makes us rather bear those ills we have,
> Than fly to others that we know not of?
> Thus, conscience does make cowards of us all;
> And, thus, the native hue of resolution
> Is sicklied o'er with the pale cast of thought;
> And, enterprises of great pith and moment,
> With this regard, their currents turn awry,
> And lose the name of action.

The adequate leader for a moment at the brink of systemic crisis, like the scientific discoverer at a critical juncture in his work, must lead the nation away from its suicidal instinct, to adopt sweeping changes in the axiomatic assumptions on which that society has been operating up to that point. The would-be, "practical" leader, who seeks approval from the authority of prevalent popular opinion before acting, is, like Hamlet, a menace to his nation. The needed leader, is *an exceptional individual*. No other will do, if the nation is to escape its imminent peril.

## How To Make a Leader

An adequate prospective leader for such a time of systemic crisis as today's, must have devoted much of his, or her personal mental and moral development from childhood and adolescence on, to studying, and despising what prove to have been the systemic falsehoods which have become more or less generally accepted by peers, and also preceding and later generations. This impassioned awareness of widely accepted, implicitly axiomatic systemic falsehoods of assumption, as embedded in the customary practice of his, or her society, promotes in that young and maturing mind a disposition for emphasis on subject-matters pertaining to what Shelley identified as "profound and impassioned conceptions respecting man and nature."

This has been the conscious characteristic of my personal life, experience, and development, since childhood. For this reason, I am much quicker than most persons, to recognize relevant qualities, or lack of such qualities, in others, both living acquaintances and historical figures. If the insights of such a developing, relatively exceptional personality are well grounded, he, or she acquires what sometimes amazed spectators see, in him, as the "gift of prophecy." For as long as I can recall with certainty, since early adolescence, I have enjoyed the possession of such an apparent gift. Over the course of the recent forty-odd years, I have never been mistaken in my judgment concerning the direction and approximate tempo of developments pertaining to the long-range unfolding of the economic and related social processes.

Consequently, on those long-ranging issues of policy on which I have premised my U.S. Presidential candidacy, since 1975-76, I have never been mistaken, as the published record of those actual forecasts attests. Hence, my foresight of February 1983, that were the Soviet leadership to reject the policy I had recommended that President Reagan present, the Soviet economic system would collapse "in about five years."

Now, all of the axiomatic-like policy-assumptions of my supposed rivals among leading political figures and economists, have failed, utterly. Most among them are still clinging hysterically to failed policies, policies which express a bankrupt way of thinking about the processes of policy-shaping as such.

However, do not permit yourself to be so occupied with the particular errors of their opinion and practice, as to overlook the root of their compulsion to commit the same, or more desperate errors of the same systemic type today. Look at the systemic roots of their crisis; look at the "geometry" of their mental life, a geometry which they do not know to exist, but which, nonetheless controls their mind as if it had "preprogrammed their thoughts."

Therefore, I have presently two principal missions. First, to get you safely through the worst of the presently onrushing world and national crisis, and, second, to foster a new leadership, from among the ranks of our young people, which will understand the systemic features of history, and, therefore, were much less likely to make mistakes as foolish as most members of the recent two adult generations have made until now.

# Operation Ibn Sina:
## Toward a World Health Program

By Helga Zepp-LaRouche



Afghanistan's rugged Helmand Province
Credit: NASA

*On Saturday January 15, 2022, an international youth conference was convened by the Schiller Institute. Anastasia Battle, the editor of the Schiller Institute's* Leonore *magazine, opened the conference, noting the creation of the third-generation of the international LaRouche youth movement, with the purpose of "taking the passion of our young people, to go on to campuses, to go out into the streets, to go on the internet, to fight with world leaders, to really make the changes for the good in the world right now."*

*She situated the context: "There are a lot of very stressful tensions going on in the world between NATO and Russia; what you're seeing with this massive starvation—45 million people are on the verge of starvation, 22 million of those people are on the verge of starvation in Afghanistan alone. So that's where this Operation Ibn Sina is coming from. We can not tolerate this. This is not something which people should turn a blind eye to and pretend that it's not happening. And all of you today, I'm sure, are aware that this is just not the way humanity should function."*

*The question is: "So, why isn't there action being taken now? Many people who are good people don't act in the moment when it's necessary, because they have all these fears in their head—'Oh, I don't have power, I don't have the ability to say or do this.' But what about the power to change someone's mind? What about the power to spark an idea in someone else's mind, to educate them? And we really want to educate the youth of the world, get them to become more potent in their ability to fight for those ideas, to activate more people to change. And that's how we're going to be able to get something like Operation Ibn Sina to develop the region in Southwest Asia. That's how we're going to be able to get the New Silk Road built all over the world."*

I greet you all, wherever you may be on the planet. It is very good that we are coming here together for what I have called Operation Ibn Sina. Over the course of my presentation, you will see why invoking Ibn Sina—who is known in the West generally as Avicenna, and who is one of the absolute towering giants of universal history—why using his name is the most suitable way to address this unbelievable crisis of humanity that confronts us.

We have had for now, almost two years, a completely out of control pandemic. It would not have been out of control, if the rich countries had proven to be a little bit smarter, if those countries acted with the understanding that you can only solve a pandemic when every sin-


Credit: World Food Program


Credit: World Food Program

*"Look at these pictures. Take the suffering into your heart and into your mind, and not what most people do. They push it out of their minds, and say, 'I don't go there. What do I have to do with Afghanistan?' We have a lot to do with Afghanistan. NATO was there for 20 years. The Afghan people have suffered from war for 40 years. We in the West have a moral obligation to help to solve this crisis."*

gle country has a modern health system. It doesn't help at all if you collect vaccines and hoard them, and leave the developing countries without vaccines. The result is you have exactly what is happening now: You have mutations—Delta, Omicron, and who knows how many of such mutations will still come.

This is why Ibn Sina, a towering figure of the 11th Century, is the name for the fight to get a world health system. And the most obvious situation—I'm not saying other countries don't need it—but the most outrageous, biggest scandal is the fact that in Afghanistan, there is right now the greatest humanitarian crisis on the planet unfolding. It's not a natural catastrophe. When the Taliban took over, when the NATO troops left in August, everybody knew that 75% of the budget of Afghanistan came from international donor countries, and these monies were cut, because the NATO forces didn't like the Taliban. And they all knew that the Afghan economy would completely collapse.

It's now five months later, David Beasley from the World Food Program and other UN officials are warning that over 90% of the people are food insecure, which means they are starving, and they have no access to medicine—and that in the middle of a pandemic. I call this genocide. It is like what happened in Germany around 80 years ago, when later, when the Nuremberg Trials took place, the question was also, "Who knew what, when?" And now, because of the international media, TV, the internet, nobody can say that they could not know.

So what is the purpose of this conference? My urgent, urgent request to you, to young people, is that we have to create a force to establish justice on the planet. And the first place this has to start, is in changing public opinion in respect to Afghanistan. There are these people who say that the Taliban first has to give certain rights to women. Now that's the most hypocritical argument I have ever heard: When you have women starving with their children, cannot give milk because they are starving themselves, freezing to death—look at some of these pictures from Afghanistan released by the World Food Program—you can forget about women's rights, because these women are, right now, dying of starvation, and their children as well.

Look at these pictures: You have to be able to take that suffering into your heart and into your mind, and not do what most people do. They push it out of their minds, and say, "I don't go there. What do I have to do with Afghanistan?" We have a lot to do with Afghanistan. NATO was there for 20 years. The Afghan people have suffered from war conditions for 40 years. And we in the West, in particular, have a moral obligation to help to solve this crisis, which would be very easy.

The United Nations has just said what is needed to immediately stop this dying of 8 million people, who are dying right now, as we are speaking; and about 23-24 million are in danger to not live out this winter. It would only require $5 billion—five billion dollars. That is the proverbial peanuts. Think about the *trillions* of dollars which have been used to save the banking system in the last several years. Think about the $760 billion military budget of the United States alone. So $5 billion would be the proverbial peanuts. We have to create a movement worldwide to reverse this and create so much pressure on public opinion that an aid program can immediately start.



Credit: World Food Program



Credit: World Food Program

## Let Us Turn to Ibn Sina

Ibn Sina—who, unlike in the West, where he was well known and greatly admired, even up to the 1800s—is still very much alive in the Islamic world. And not only because of his contributions in metaphysics, in all the different sciences, but especially in the history of medicine. He was one of the most outstandingly great physicians in world history, together with the Greek doctors Hippocrates and Galen. There may be a few more—you can count them on the fingers of one hand. He is one of the absolutely outstanding ones.

That he was very famous, you can see in the 30 different postal stamps issued honoring him. Many of you may have either read the 1986 novel, *The Physician*, called *Medicus* in German, by the American author Noah Gordon. There's also a movie based on it, a Hollywood movie and a musical in Germany and Spain.

We are not talking about some obscure person. Ibn Sina was without any question the central figure in Islamic philosophy in this period, which is known as the Golden Age of Islam. It started in Baghdad in the Abbasid dynasty, the Caliphate, after the collapse of the Roman Empire. Europe plunged rapidly into a dark age. All the great treasures of the Greek classics were essentially lost, because the Romans did not pay any attention to the absolutely outstanding contributions of the Greek classics. Rome quickly became an empire, not interested in the intellectual fruits of this period.

Therefore, after the collapse of the Roman Empire, because of an incredible effort by the Baghdad caliphs, al-Mansour, al-Ma'mun and others, they practically saved the knowledge which had been completely in danger of being forgotten in Europe, by sending emissaries to all the European countries and the countries around the Mediterranean, and basically weighed in gold all the crucial texts from the original thinkers and discoverers, so that basically they saved all existing knowledge of that time. And Baghdad, at that point—this was starting 750 A.D.—was the city worldwide with the most books, the most scientists, and it was just the capital of progress of the world.

Now, especially the texts of Greek classical philosophy and science were translated, and were general knowledge in the entire Arab world, also in Persia. And at that time, the Islamic world was much, much, much more advanced than Europe, which was really in a terrible condition.

Therefore, Ibn Sina, who led all of this and was absorbing all the Greek texts, the translations; others say that he read Aristotle's *Metaphysics* forty times. And he said that forty times he did not understand it—which is understandable, because it doesn't make much sense, frankly. (Anyway, that was just my comment.) But he also absorbed 2,000 years of Eurasian philosophy, and he nevertheless used all this knowledge to become a completely independent thinker, an original thinker, who naturally commented on Aristotle, and other people like al-Kindi, al-Farabi, and many others. But to say that he was an Aristotelian, as some writings are saying, is completely false. You can also not call Schiller a Kantian, just because he wrote his *Letters on the Aesthetic Education of Man* and all of his aesthetic writings against Kant. That doesn't make him a Kantian.

## A Philosophical Advance

Ibn Sina used this knowledge, including the writings of the neo-Platonists of his time, such as Proclus, who tried to reconcile Plato and Aristotle. And so Ibn Sina knew almost the entire philosophical tradition up to his




time.

He was an incredibly prolific writer. He wrote about 200 to 775 major works— many of them have not been saved—and he was evolving his ideas throughout his whole life, as all great thinkers do. You never start out as a young person with the same complete set of knowledge, that you accumulate over the length of your lifetime. And he was writing certain absolute breakthroughs, such as what he's most famous for, his *Canon of Medicine*. These were five books, which was an unprecedented, never-before-collected encyclopedia of medical science, which had many components, which I'll mention in a second. But he was also writing on natural sciences, practically all faculties, mathematics, geometry, biology, geography.

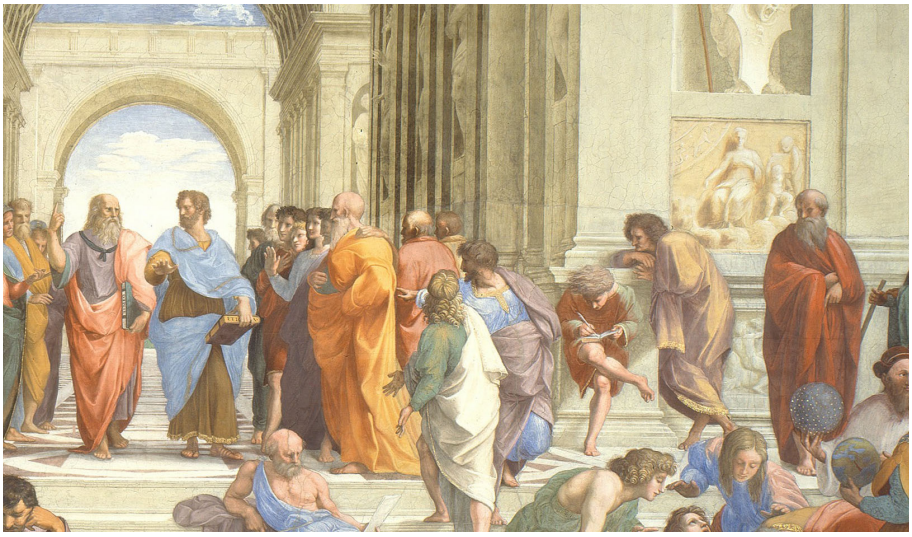
He also was versed in poetry, music; and he was sort of a wonder child, who, when he was only 10 years old, already knew the entire Koran by heart. And he had gotten some of the best teachers from his father, in jurisprudence—in law, in Islamic law. And he learned more quickly than all his teachers. So he quickly became an autodidact, somebody who is self-taught.

Look at the area he came from: His father was born in Balkh, near Mazar-i-Sharif, which today is in northern Afghanistan. Balkh had been made Alexander the Great's capital after he had conquered this entire region. (Alexander went all the way up to India with his conquest. He made the city Balkh the capital of his province Bactria.) Later his father moved to Afshana, which is near Bukhara, which is today in Uzbekistan, where his mother came from. It was a very important cultural center, where many historians, poets, scientists of all categories were also gathered. His family was extremely educated, including his mother, and so he had an incredibly rich environment.

You can read all of that in his autobiography, which Ibn Sina dictated to his student, Abu 'Ubayd al-Juzjani. We have much more to do, to study this history. I want to invite all of you to engage yourself with us in these studies, because nowadays people look at Afghanistan and Central Asia as a region of terrible crisis. But this region, known as Bactria, was once known as the "Land of the Thousand Cities." This was in the time of Classical Greece, and it has an incredibly rich history, about which people in the West know almost nothing.

That is one of the reasons why people have such a hard time to understand that you cannot go into Afghanistan and try to impose Western democracy—which is a whole farce by itself, but that's for another discussion—but that you cannot impose a culture on a culture which has its own very, very clear, cultural roots in poetry and science.

So, one of the aims of Operation Ibn Sina is to make known to the world the incredibly important contribution to universal history, to our own contemporaries and future generations. We want to build a completely new paradigm, where a dialogue of cultures—among all the nations and all cultures—is an equal partnership, where each contributes the best tradition of their own history and relates to the best tradition of the other, because that



*In Raphael's famous "The School of Athens" (1511), Plato and Aristotle, with their two opposing worldviews, are placed at the center of the painting. In the close-up above, they can be seen looking at each other on the left. Plotinus, the neo-Platonic philosopher of the 3rd century A.D., can be seen on the right in the red robe. This is the tradition from which Ibn Sina emerged.*

is the only basis for a world living in peace and harmonious development.

## On the Soul

Let me start with the most important works he wrote about metaphysics. He wrote about the healing of the soul. Ibn Sina had the idea that what philosophy does for the mind—namely, healing it—medicine does for the body. What he does in his metaphysical treatise is a discussion of the immortality of the soul. That was a question which concerned practically all philosophers of ancient times. What is the soul? Do people have immortal souls? Does the soul die together with the body? Do people have individual souls? Do they partake in a world soul? And this was a very basic question, and it's quite amazing that nowadays, I have found very little concern among people, old and also young, to discuss about the soul and the beauty of the soul. Even so, I think that that is, actually, the most important, because the soul is where our identity is located.

Now, if you look at the discussion before Ibn Sina on that issue, Aristotle saw the soul as an entelechy, which is basically that the aim of the soul is the perfection of something like an organic body, that has the potential to live, and therefore is becoming the most perfect of its possible being. But it's not separated from the body, and therefore, when the body dies, the soul also vanishes.

Now, Plato, on the other side, thought that you not only have the human soul; the world has a soul, the Earth, the animals, plants—all have souls. And [that] they have to fight their whole life between the intellect—that the soul strives to become more and more spiritual—and the senses, because the soul participates in both; the soul is in motion, that is, a self-moving process, and therefore, it is immortal and indestructible. And it is the soul that breathes life into the body, and death is the separation of the soul from the body.

In the *Phaedo*, one of Plato's dialogues, he develops the idea that the soul exists before birth, and when a baby is born, in the birth the soul attaches itself to the body, and then it continues to exist after death. Now for Plotinus, who was a neo-Platonic philosopher who died 270 A.D., the birth is the moment where the soul separates itself from the universal pre-existing soul and is individuated in this particular person. During the entire lifetime, the soul has to struggle, to either fall into the indulgences of the sensuous pleasure, or rise to the level of philosophy and intellect and never be dragged down to the material world.

## A Thought Experiment

Ibn Sina discusses the soul and the self-consciousness of the individual, and he uses a very fascinating thought experiment to come close to this idea. It's called the image of the "floating man," or the "flying man."

He says: You have to imagine a fully adult man, about 30 years old, who all of a sudden plunges from nowhere into full adulthood. He has no memory of his history, he doesn't remember his childhood or anything else, he's just all of a sudden there. He's suddenly in an empty room, floating, not touching the ground, and not touching the walls, just floating in the air. The room temperature is about the temperature of his body, so he doesn't have a sensuous experience through his skin. His legs and arms are stretched out, so he has no sense of touch, like the feet or the hands touching, they are all stretched out; he has no sensation of touching. His eyes are blindfolded, he has no sight. His ears are covered, he has no hearing. He doesn't smell anything nor taste. So he is floating there in mid-air, in total sensory deprivation.

And then Ibn Sina asks the question: Is this man aware of himself? Now, he basically comes to the conclusion that such an adult man, who has fully his intellectual faculty but is divorced from his senses, would absolutely have a sense of his self. And because it is opposite

and is separated from the senses, it means the soul is not depending on material conditions.

Now, with this thought experiment, he tried to solve the century-old question, "What is the soul? And does the soul have an existence separate from the body?" And his answer is definitely, "yes." This man would have a sense of self. He would not be dependent on any sensory experience. His soul exists separate from the body, and naturally, such a soul, being immaterial, survives after his death.

He says in the *Metaphysics*: "Now, it is the cognitive power of the soul that it thinks, and further, that it reflects on its own thinking in a reflective way, and that it thinks again over this second order of thinking reflectively, and through this, accumulates relations to others. It builds so in one object, different conditions, namely proportions, which, according to their power, have no end. Thus, it is necessary that these mental forms of knowing, which follow upon each other, have no last link, literally no stand-still, with the necessary result that one progresses continually without end."

That describes a self-consciousness about one's own self-conscious thought process. Operation Ibn Sina comes from an idea of an image of man, in which each human being has this idea of being a creative person and having an absolute value.

## For All of Mankind

Therefore, when we say we want to solve this greatest humanitarian crisis in Afghanistan and start with a modern health system, what do we have to do? And why is Ibn Sina the absolute appropriate person to start this effort with?

As the Chinese have demonstrated in Wuhan two years ago, when they had the first cases of COVID-19 in Wuhan, they closed down the city of 15 million people and the entire province around it and put everybody in absolute quarantine. And then they did all the other things—contact tracing, isolation; and they, contrary to the governments in the West, which could not make up their mind, should they put people in isolation, should they not? And then because people didn't like it, because of their liberal values, they did not. And now you look at the situation where, in the United States, 900,000 people have died. In Germany alone, 115,000 people have died.

In China, not even 5,000 people have died in a population that is more than four times bigger than that of the United States and more than twelve times bigger than that of Germany. So, which policy was used and what was the most effective measure against pandemic? Quarantine.

Now, who first developed the concept of quarantine? It was introduced the first time by Ibn Sina. He realized that a 40-day period of isolation is the best method to stop the spread of infections.

Now, let's see the film clip of Ibn Sina and COVID-19. It's from a 1956 film, now being circulated from Uzbekistan, with English subtitles.

[A short clip was shown at this time from an Uzbek film produced in 1956, emphasizing Ibn Sina's original hypothesis of quarantine during times of disease. The clip can be watched at the link below.[1]]

## Let Us Know What Was Known

So that thought, the message of Ibn Sina, came to many people. It is worthwhile to reflect at this point. Today, we have all these demonstrations of anti-vaxxers, of people who refuse to be isolated, or quarantined, and have all kinds of conspiracy theories about the pandemic. And I think it is worthwhile at this point to reflect what an incredible breakthrough it meant to have modern medicine. And Ibn Sina is the person who shows the difference between a scientific approach to medicine and the previous, completely superstitious ideas about medical treatments.

The five books of his *Canon of Medicine*, which was the standard work in Europe for medicine, discussed in detail the anatomy of the body, the functions of different organs, the connection between muscles, the nervous system and the psyche. He developed a whole categorization and list of different diseases and treatments; he listed medicines. The work incorporated the knowledge of Hippocrates and Galen, but Ibn Sina added to that several fundamental breakthroughs; quarantine is just one of them.

For example, he recognized that infections spread through tiny, invisible particles, among other things, through contaminated water and soil. He for the first time treated life-threatening diseases with the help of anesthesia, and he had a knowledge about treating cancer in the early stages. He knew that it was important to remove all affected tissues. He developed a diagnostic method for diabetes, by measuring the sugar in the urine. He, in his treatments, emphasized the need to have attention in the patient to the age, the body type, the emotional state, eating habits, lifestyle, movement. He even discussed the effect of the seasons on the body—what is the impact if the air is cold and dry, or warm and wet.

1 https://youtu.be/nO4RFhFLYeQ

In the *Canon of Medicine* he listed about 760 medicines. And he also emphasized to never use an unused drug, but to first test it on animals and individual human beings, before you put it into general use. He was absolutely aware of the relation of emotions and the physical condition of the person. He discussed how music has an effect on the physical and psychological condition of the patient. So, that was a very rich compendium, which never existed before in this form. And therefore it was quite correct that already in the Middle Ages, he was called the father of modern medicine. And he shaped the medical science both in the Orient and in the Occident.


Credit: NASA

**"It is the creative principle, the 'necessary existent,' that is above all creation, that can never create a second existence that belongs to the same level of existence as itself... Therefore, in his view, the world is there in eternity, a continuous revelation of the goodness and charity of the Creator, of Allah."**

But Ibn Sina said medicine is one of the easy sciences. So it was for him the easiest part and just one of the many sciences which he pursued.

## To Metaphysics

Now, coming back to the most profound aspect, his development of metaphysics: Metaphysics goes back to the Greek origin of the word, *meta ta physica*, which literally means that which comes after physics, or what is above physics. Metaphysics as the first philosophy, or as it also is called, as an ontology, which discusses the question of being as such, *esse*, "being," "existence."

The issues which concerned all philosophers from the earliest time, especially the ancient Greeks, to the present time, were such fundamental questions: Why do we exist? Why does anything exist at all? When did existence start? Was it eternally there?

Well, obviously, the different philosophers and schools gave very different answers, and it was a continuous struggle of ideas about this question of, is the universe the only one? When did it start? And obviously all these metaphysical questions became extremely important for physics, beyond the metaphysics, to ask the right questions, to formulate adequate hypotheses leading to fundamental scientific breakthroughs, or not. One can actually trace progress in science to one specific philosophical tradition, because it lent itself to ask the adequate hypothesis, and that is a very important question. And, my late husband, Lyndon LaRouche, has done more than anybody in the history of philosophy and science to answer that question. Now that's a subject for another time.

These philosophical questions were there before natural science was developed, and Ibn Sina developed a new conception, which did not exist in Aristotle and the followers of Aristotle, which are quite the Peripatetics, nor in Plato and the neo-Platonists after him. This conception is what he calls the "necessary existent." He maintains that there is only one unique being, that all which exists is in a necessary way, that this unique being is the only one which exists out of itself. Everything else is also necessary, but it does not exist out of itself, but it is caused in a necessary way by this first principle. He calls these other non-self-subsisting existences contingent. It is the creative principle, the necessary existent, that is above all creation, that can never create a second existence that belongs to the same level of existence as itself. It is the ultimate cause which precedes all which is only contingently possible.

Now to make that concrete, you and I, we are obviously not a necessary existent, but we are contingent, because we need a cause. And that cause was essentially our parents who got married and had love, and then finally,

we were caused by this, but we are not without a cause.

So he says since everything has a cause, what is behind this cause? Another cause. And behind that cause, still another cause, and so forth and so on. Behind this seemingly endless cycle of cause and effect, there must be one final cause, which must define the rational order in the universe. And if there is one cause which effectuates all others, then that cause must be of a higher reality than all of its effects.

## On Creation

Ibn Sina comes through his philosophical reflection to the conclusion, that the creation never "began," because the world exists in eternity; because if there is such a necessary existent, that which exists only through the power of its nature, then it does not exist either by accident or in a contingent form. Rather the unique characteristic of the necessary existent, is that it is perfect. It is unlimited goodness. It is selfless benevolence. By bringing the world into existence, it emanates its goodness and love. Therefore, this highest form of being does not start to create at a particular point in time, because it is the infinite goodness. It does not hold back until a certain point in time, where it starts to create. It is unchangeable. It is not a potentiality, which then decides to start to create the process of creation.

Ibn Sina says it does not make sense that this highest being is first inactive, and then decides suddenly to start its creative activity. For such a possibility, there is no reason, because the necessary existent is the only existent and is also unchangeable. So what would be the reason for it all of a sudden to start its creative activity? It also does not make sense to assume that the necessary existent was there before the Creation, because that would assume that it is only temporary, while it is outside of all time. Therefore, in his view, the world is there in eternity, a continuous revelation of the goodness and charity of the Creator, of Allah.

The necessary existent, as the first existing, cannot be a multitude. It is simple and it is not material. It is entirely mental, intellectual, spiritual, as the movement principle. And Allah does not create all the lower forms of existence. He creates the higher forms of intelligences, who then create other intelligence, who in turn create further intelligence, describing a progression to lower levels of completeness, the further they become distant from the first course. Nevertheless, God is present in all forms of creation, either directly, as in the creation of the first intelligence, or indirectly as in all other creations.

Evil does exist, but it is not in the intention of the Creator. Evil is a lack of something, and the individual has the free will to act in a responsible way to shape his own destiny and future.

This creation theory is what is fundamentally new in the metaphysics of Ibn Sina, and it is very different from Aristotle, and also the neo-Platonics, because it implies that God has transferred His power of Creation to His creatures, namely mankind. And this is the main reason why Ibn Sina, an Islamic philosopher, was accepted so widely in the thinking of many European medieval thinkers, while he was fought by some of the Islamic philosophers, such as al-Ghazali and Averroes (ibn Rushd). But in Europe, where his works were immediately translated in the 12th Century into Spanish, into Latin, such important philosophers as Thomas of Aquinas, who quoted Avicenna, as he was called now in Europe, 400 times in his works, and also Albertus Magnus, and in the translation schools of Toledo in Spain, as well as in the era of Frederick II Hohenstaufen in Sicily, and the Church fathers found his philosophy in great affinity with Augustine.

## And in Europe

The French philosopher and historian Etienne Gilson, who lived from 1884 to 1978, even coined the notion of *l'augustinisme avicennisant*. Now this is very fascinating, because Augustine, who lived from 354 to 430 A.D., who is one of the founders of a specific Christian tradition in Europe, had insisted that there is no contradiction between faith and knowledge, as compared to those people who say that only the Revelation, faith, is what counts, and it's completely separate from knowledge. And what Augustine cited as the proof that there is no such contradiction between faith and knowledge, he pointed to Plato, who lived from 428 to 384 B.C., that he already found—almost four centuries before Christ came on Earth with the Revelation and Christianity—came to the same conclusions about the creation of the universe, the nature of man, and therefore, one could arrive both through revelation, as well as through philosophy and knowledge, to the same conclusion.

This is a very important tradition, because it is that which makes reason possible, and that is what many great philosophers and scientists found, like Kepler, who was an absolutely religious person; Nicolaus of Cusa being another obvious one,[2] and many others, as compared to those people who insisted you have to be an absolute materialist to come to these conclusions.

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2 See below for a *Leonore* exclusive, first time ever English translation of one of Nicholas of Cusa's final letters, on p. 49.

Now, William of Auxerre, who lived in the 13th Century, who was a magister of theology in Paris, was a typical representative of this Augustinian Avicennism. He was very much focused on this idea of God's revelations expressed through Avicenna's speculations about the active intellect through which the process of creation continues. In other words, not a god who creates the world and then becomes passive, but that it is the continuous intervention of the active intellect, which keeps driving the process of Creation forward.

Now it's very fascinating that Dante Alighieri (1265-1321), the founder of the Italian language, who's 700th birthday we celebrated last year, in one of his beautiful writings, the *Convivio* (the *Banquet*), lets Avicenna speak extensively. And in his *Commedia*, according to the Dante expert Rudolf Palgen, Dante has given the cosmos of Avicenna a poetical existence. And according to this expert, the whole conception of the *Commedia* is a completely extraordinary poetic composition, which reflects the fascination with the idea of a heavenly active intelligence. The damned in the Inferno, in Hell, are those who have lost *il ben del intelletto*, the asset of intellect, which is higher than the understanding, the separation of senses: understanding, reason. It is this higher asset of intellect which is what the people in Hell lost. They may still have understanding, because evil people can still have understanding, but they are in Hell, because they lost exactly that highest quality of the creative mentation, as you would call it nowadays.




*Postage stamps of Ibn Sina, or Avicenna; above, Algeria; below, Iran*

## The Golden Renaissance

Another one who was absolutely fascinated with Avicenna was Marsilio Ficino, who was one of the Platonic teachers at the Platonic Academy in Florence, which obviously played a decisive role in the Italian Renaissance. And this was what revived Plato, who was lost for 1700 years in Europe, and which was brought back to Italy by Nicholas of Cusa and his friends from the Greek Orthodox Church when they came to the Council of Florence. So this Ficino called Avicenna "the divine." Now, before that, Nicholas of Cusa himself quotes Avicenna throughout his works. In one of his earliest sermons, the sermon number two, he quotes Avicenna. Then in the *Docta Ignorantia* in the second book, and also in *Apologia Doctae Ignorantiae*, which is the *Defense of the Learned Ignorance*, he quoted Avicenna in a very, very positive way all the time.

And if you ever go to Bernkastel-Kues, which I can only advise you to do, and when you are lucky, I will take you there for a tour, then you will see that he had in his library a lot of Avicenna's writings in his possession, and he admired Avicenna very, very much.

Now, Nicholas agreed with Thomas of Aquinas and his reflections on Avicenna, that the human mind comprehends the transcendental notion of being before the concretization of individual things as such. In other words, that the mind has a sense of grasping the essence, the being, before grasping concrete matters as such.

Now, Nicholas, in *De Pace Fidei*, about peace in religion, one of his beautiful Platonic dialogues, about how to have a dialogue among the different religions to arrive at peace, he made a reference to Avicenna, which is very important, namely that Avicenna, when he talked about the happiness people will experience in Paradise is spirituality. The happiness one finds in the knowledge of God and truth, and not the Earthly joys—some commentators, also of the Koran, had emphasized—obviously is a much higher conception about what happiness represents.

Now, Cusa's conception of man is as an instrument of God, being the instrument of God by continuously carrying on the process of creation through the creativ-

ity of man. This is expressed in Cusa's notions of *imago viva Dei*, "the living image of God," and the *vis creative*, "the creative power," which is inherent in every human being. These ideas are clearly in affinity with Avicenna's necessary existent, as the first eternal cause, and the continuous effecting of that principle through the active intellect.

## God Continues His Creation

Well, what a fantastic idea is this, that God continues his creation through man! And what a tremendous responsibility that puts on everybody's shoulders.

Ibn Sina had a clear conception about the eternity of the world, and the eternity of the principle of creation. And it is not the often-misunderstood idea of the Christian fundamentalist creationists, who completely oppose modern science, because it seems to contradict Revelation. For Ibn Sina, the process of creation did not start at one point, because that would have meant a sudden change in God's nature. But since the character of the highest being is pure goodness, it is part of the essence of continuously creating other beings, *Seiende* in German. If it, this highest being, would have all of a sudden started to create, there would have been a change in its nature and that is excluded by definition, because then it would not be the highest being.

Interestingly, Thomas of Aquinas did think that the eternity of creation was compatible with the divine freedom. God could have decided to create the world from eternity, and that basically would solve the problem of being in contradiction to the revelation that God created the world in seven days and that it had a beginning, because if God decides to create the world from eternity, then that resolves the supposed conflict that there was a beginning of creation.

Before Ibn Sina there was a Christian philosopher in the 9th Century, with the name of John Scotus Eriugena, who in his writings, who unfortunately became very little known during his lifetime, basically had a similar approach, and when later philosophers tried to refer to him, he was condemned by Pope Honorius III, as a heretic. So, there was no significant influence on the thinkers who followed.

So that, in a certain sense, was a development in the same direction, but it didn't have an influence, so it is all the more amazing that Avicenna was absorbed practically without ever having been condemned by the Church. There were counter-arguments against aspects of his philosophy, yes, but he was never really condemned as a heretic or anything like that. So one can definitely say that Avicenna not only revolutionized medical science for Europe for many centuries, but he also laid the foundation for a new metaphysics in the West.

But in the evolution of human knowledge, especially in light of modern science, what did metaphysics contribute to the advancement of man's conception of the universe? What does all of this talk about the necessary existent have as relevance for us today?

On Christmas last year, on December 25th which just passed, there was the successful launch of the James Webb Space Telescope, which will be fully operational in June of this year, and on January 8th, just a week ago, it swung the last three of 18 hexagonal mirror segments into position, locking them together into a 6.5-meter-wide "cosmic eye." It is supposed to reach its final location, a gravitationally stable point in space known as the L-2 point, on January 23rd, eight days from now. The telescope will look back in time as much as 13.5 billion years. It will study astronomical phenomena, such as the most distant galaxies in our universe. *And what will it find out*?

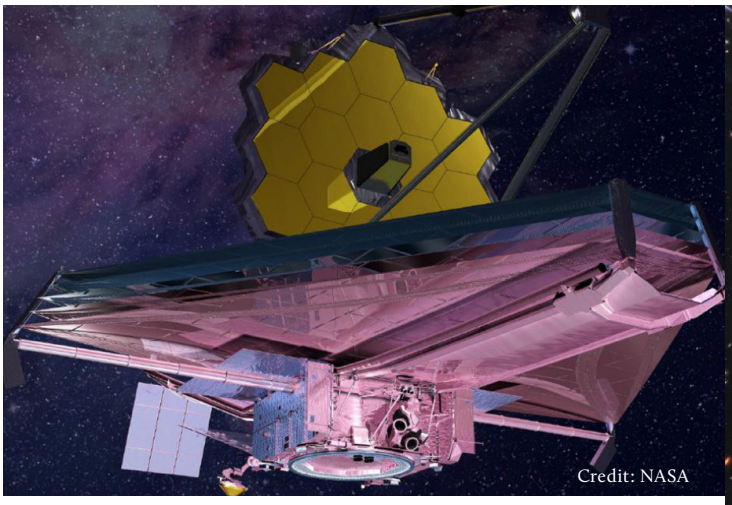
## The James Webb Space Telescope

And now please show the clip of *29 Days on the Edge* by NASA/JWST.

[At this time, a clip was played from NASA's preview of their James Webb mission. The original clip can be seen at the link below.[3]]

> Once we launch the James Webb Space Telescope, there are no second chances. We have 300 single-point-failure items, and they all have to work right. When you're a million miles away from the Earth, you can't send someone to fix it. We've never put a telescope this large in space. We want to see distant parts of the universe humans have never seen before, looking back in time, almost 14 billion years to see the first galaxies that formed after the Big Bang. And we want to search for the building blocks of life in the atmospheres of planets orbiting distant stars. To unfold the history of the universe, we must first unfold this telescope.
>
> This the largest primary mirror, the largest sunshield and the most powerful space telescope ever built, and yet this large telescope needs to fit inside a 5.4-meter-diameter rocket fairing. That's the largest fairing size available on any rocket, and it's the fairing size on our ride to space. The Ariane 5 provided by the European Space Agency is one of the world's most powerful rockets. To

3 https://youtu.be/7bz03OnyD2A







*NASA's James Webb Space Telescope, launched Christmas of 2021; left, a rendering of the telescope; right, one of the first images release in early July*

cheat the fairing size limit, we build Webb to fold, like origami, to fit inside the rocket fairing. And this brings us to our most challenging part of this mission, unfolding it in space.

Think of what you're doing. You're taking this extraordinarily delicate, precise, state-of-the-art scientific instrument, you're slapping it on a rocket. For the next eight minutes, the explosion from that rocket is following you into outer space, vibrating, shaking you. Everything that goes into outer space has to live through this environment and work once it gets there—without having someone come to fix it.

This mission is squarely in new spacecraft territory. Webb is the perfect example of science desire driving engineering capability to new frontiers. Webb's unique design was born from recent engineering to accomplish its science goals. Shortly after launch, we unfold Webb's solar panel for power and our high-gain antenna for communication. About 12 hours later, we have an important engine firing that sends Webb on the proper course towards its orbital destination about a million miles away.

That's where Webb will do its science. Webb will be moving so fast it passes the Moon's orbit in one and a half days, half the time it took Apollo astronauts to reach lunar orbit. We have these huge iconic gold segmented mirrors that will help us deliver amazing new images from the cosmos. But in some ways, the sunshield is a lot more complicated, and it's just as essential. Without it, nothing works.

The sunshield shades the telescope from the heat of the Sun, Earth and Moon. The concept is simple, but there is nothing simple about the design or operation, especially when you get to space. One sunshield assembly includes 140 release mechanisms, approximately 70 hinge assemblies, 8 deployment motors, bearings, springs, gears, about 400 pulleys, and 90 cables, totaling 1312 feet—all this just to keep the sunshield under control as it unfolds.

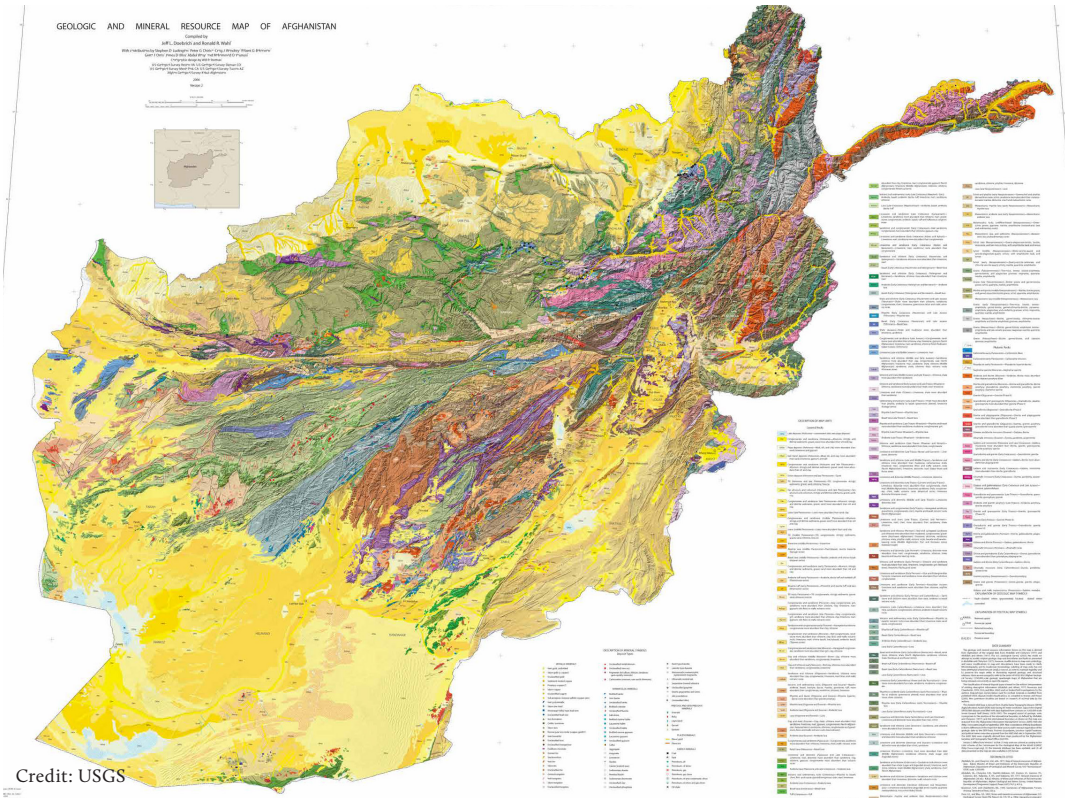
With the sunshield fully deployed, we start setting up the optics. First, the secondary mirror is extended and locked into place, and a special radiator behind Webb is extended, which helps further lower the temperature of the science instruments. Finally, we open the primary mirror's wings and lock them in place. With that done, Webb is in its final configuration. But we're not done yet. After 47 deployments and accomplishing the hardest spacecraft unfolding NASA has ever done, Webb still won't be ready for science. While the instruments cool, we'll control motors behind each of Webb's 18 mirror segments, secondary mirror and in the fine steering mirror located inside the center of the primary mirror, we'll precisely align the mirror segments to form a perfect mirror. Then, Webb will be ready to explore the cosmos.

## Seeing What Man Has Never Seen Before

This space telescope will be in place by June, and then we will find out what happened in the last almost 14 billion years. And we will find out, is the theory of the Big Bang going to be confirmed? Was that the moment that the universe sprang out of nothingness, or was there something before?

It is clear that the universe is expanding. So if you go back in time, and that will be possible with this telescope, it will become smaller and smaller, and maybe shrink to a point, as the theory of the Big Bang says, which sup-

posedly happened 13.8 billion years ago. Maybe it existed before that. Maybe the universe contracted before the Big Bang, until it reached this point, until matter was unimaginably densely compressed, and then the Big Bang happened, and then started to expand again. All the different theories, how the universe could have looked before our world, before our world came into being, will be greatly boosted by the finding of the Webb Telescope. We will find answers to questions we cannot even ask yet, and you know, it will be a fantastic opening up of the window into the real function of our universe.




Credit: USGS

*USGS map of geologic and mineral resource map of Afghanistan; originally made in 1977, updated in 2006*

So maybe we get closer to understanding the necessary existent of Ibn Sina, according to which the sudden beginning of the universe does not make any sense, because it is not compatible with the goodness of this highest principle of creation. Maybe our mind will have to think in completely different dimensions—for sure, not the Euclidean space and time. Maybe one has to invent a completely new relativity theory, one which fits the idea of what Lyndon LaRouche has called the "simultaneity of eternity."

Now, I would like to share a quote:

> The extraterrestrial imperative is a driving force in the natural growth of the terrestrial life beyond its planet's limits. As such, it is an integral part of the obviously expansionistic and growth-oriented pattern of life's evolution. This drive caused life to go from infinitesimal beginning, into a force that encompasses and transforms the entire planet through its biosphere. More basically, the extraterrestrial imperative expresses a first message, a primordial imperative bred into the very essence of the universe, driving the evolution of matter from the simplest form, the elementary particles, to highly complex structures, namely the intelligent brain. The vast amount of cosmic energy is released by stellar matter in the initial phase of this process, the transformation of hydrogen to helium and heavier elements and bound up in the later phases involving the formation and the evolution of living matter. By these roots, it is possible to identify the extraterrestrial imperative as the basic principle that can be derived from a consistent interpretation and generalization of recurring phenomena common to the evolutionary process.

These words were written in 1971 by Krafft Ehricke, the German-American visionary and rocket scientist, who happened to have been a close friend of ours, and was a board member of the Schiller Institute. And he coined this notion of the "extraterrestrial imperative" to signify the task of humanity to explore space, since that brings man beyond the idea of the Earth as a closed system, and opens the entire universe to humanity.

Now, the James Webb Space Telescope, a project which involved the work of over 10,000 people from over 14 countries, over 25 years, and they put this telescope into space, 1 million miles away from Earth: I think this is fantastic! If mankind can do this, can we mobilize, with the same determination, to save the Afghan people with Operation Ibn Sina? The Islamic world must reconnect to its golden age and have a renaissance of all those beautiful philosophers, artists, scientists, of the period between 750 until the beginning of the 11th Century, of which Ibn Sina was the high point.

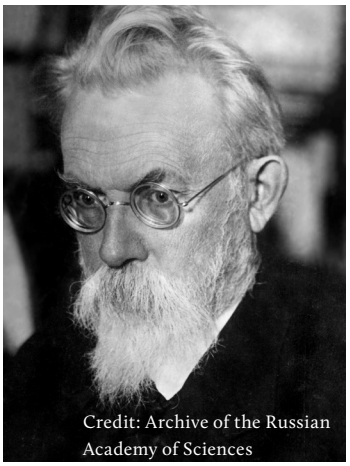
So I call on you to all work together on Operation Ibn Sina. And, if we can put a telescope like that into space to find out the origins of the universe, we can save Afghanistan.

Let us close with a clip from a speech by my late husband, Lyndon LaRouche, who was absolutely in line with that thinking:

> If we were to take the attitude, which the United States had under the Kennedy Space Program, or it was actually the Eisenhower-Kennedy Space Program, from about 1958, the so-called Sputnik, both Sputnik programs, to about 1965—if we maintain that, combined with policies of investment tax credits for investments of a suitable kind, with a science enrichment program in our schools and similar kinds of things, that we did then—nothing more than that—I can assure you, that knowing what we know is important to work upon in science, in technology, knowing the kinds of projects which are the best way to express these technological improvements—I assure you, that if mankind on this planet had the political will to do that, we would increase the potential population density of this planet, at a higher standard living, by a factor as much as 40 over today's; the next three generations, a factor of 10. We can sustain by the end of two generations, we could be sustaining a potential population in the order of magnitude of 100 billion people, more comfortably, much better fed, much more secure, much freer, much less crowded, than today, because we'd use land more intelligently.
>
> There are two kinds of natural law, or two aspects of natural law. One is the laws of the universe, and the man who,— or say, if Congress were to repeal the law of gravity, just for illustration, would that repeal the law of gravity? It would not.
>
> So that whenever men, because they have great political power, say that they are defying what is, in effect, a law of the physical universe, a law of nature, natural law, and they cause others by their power to support that defiance of nature, what happens to the nations which defy nature? They are crushed! They're destroyed! Their defiance of natural law becomes the instrument of their destruction.
>
> If you support politicians who engage in that defiance of natural law, what do you bring upon yourself and your nation? You become an accomplice. You enforce that destruction. You bring about the destruction of your nation, your family, of everything. That in order to deal with the kind of crisis which confronts us, we must look within ourselves, and find a value within us, so precious, that if we spent our lives to defend that value, we would have thereby gained our lives, because we have gained the purpose of our mortal existence.
>
> Now that's what a soldier ought to carry into the battle as courage, not patriotism, but that! Not patriotism as the abstraction of a flag, not patriotism as a racist concept, not patriotism as in any other of these symbolic senses. But patriotism in the sense which we ought to have in the United States, but we're pretty much estranged from: To know what Ben Franklin and the others represent, a system of representative self-government, under natural law and under law, governed by natural law. That to imagine the horror, of having once known such a form of self-government, to imagine living under slavery, which is not only a material oppression, but a destruction of the very soul of one's children, and their lives upon us, then.
>
> And how we respond to that challenge, the moral responsibility for the fate of hundreds of billions of souls, who in all propriety, should be born in the time to come. There lies upon us the responsibility of looking back to those martyrs, who gave us institutions, in which truth was given social standing, and thus, freedom. There is no freedom without truth! And there is no truth without freedom. The right of an individual, informed by right principles, to come to an opinion based on reason, not arbitrary opinion, but based on careful employment of reason, and the right of that individual to stand up and say, "This is what I believe, unless I am persuaded to the contrary by reason," that is freedom! If the entirety of society disagrees with you, so what? You have the right, as long as you're guided by reason and as long as you will submit yourself to correction of your opinion by reason—that is, the right to assert an opinion, contrary to the majority of society around you, that is freedom.
>
> A democratic society, as Project Democracy and the Congress define it today, is the most horrible abomination imaginable. Against which the founders of the United States warned. Democracy is the worst of all evils, the worst of all tyrants! Because there is no worse tyrant than the irrational mob, the lynch mob! Democracy, as they define it, is lynch mob democracy. Just don't have the wrong color of skin or the wrong color of opinion. Under which the individual has no right, but the right to agree with what appears to be majority or ruling opinion. And if the mob changes its opinion, you tear off your clothes and put on the clothes it puts on, and so forth and so on. A society of fads and insanity, with no moral purpose, no character and no ability to reason.
>
> The defense of the individual who wishes to reason, who wishes to be governed by natural law and reason: that is the most sacred duty of society, the defense and nurture of such individuals. And a society which does not fulfill that mission is unfit to exist! A form of government which does not serve that purpose is not fit to exist! Because it does not protect the most precious part of human society, the development of the powers of reason in the individual: The thing that makes us truly human, the thing that makes our individual lives each sacred, and that's what is at stake.

# V.I. Vernadsky:

## Scientific Thought as a Geological Force


Credit: Archive of the Russian Academy of Sciences

*Vladimir Vernadsky (1863 – 1945)*

## By William C. Jones

*This is the edited transcript of the presentation of William C. Jones to Panel 3, "Principles of Science for Durable Economic Progress," of the Schiller Institute's June 18–19 Conference, "There Can Be No Peace Without the Bankruptcy Reorganization of the Dying Trans-Atlantic Financial System." Mr. Jones is a former White House correspondent for EIR. He is currently a non-resident scholar of the Chongyang Institute for Financial Studies at Renmin University of China. One subhead has been added.*

Let me start by quoting space engineer and former Peenemünder, Krafft Ehricke (1917–1984), a friend and collaborator with Lyndon LaRouche and Helga Zepp-LaRouche and a former advisory board member of the Schiller Institute:

> If God wanted man to become a spacefaring species, he would have given him a Moon.

Ehricke also talked about what he called the Extraterrestrial Imperative. What kind of "imperative" was this actually? On the one hand, I think it had to do with man's innate curiosity and desire to know more and to resolve conundrums, to probe the unknown. The Moon is close by. It seems that you could touch it, if you just had arms long enough. But it was also an "imperative" for Ehricke since the Moon also possessed considerable natural resources that would be of importance for life here on Earth. Ehricke was one of the first to seriously discuss and develop the notion of mining on the Moon.

In one of his most penetrating essays, "The Anthropology of Astronautics," written in 1957, Krafft Ehricke declared the three "fundamental laws of astronautics":

> • Nobody and nothing under the natural laws of this universe impose any limitations on man except man himself.
>
> • Not only the Earth, but the entire Solar System, and as much of the universe as he can reach under the laws of nature, are man's rightful field of activity.
>
> • By expanding through the universe, man fulfills his destiny as an element of life, endowed with the power of reason and the wisdom of the moral law within himself.

Vernadsky may be more familiar to you than Krafft Ehricke, or he may not be. Aside from Dmitri Mendeleyev, scientific breakthroughs by Russian scientists have not been so well known in the West. Few works of Vernadsky's prolific output have been translated, with the first French version of his early ground-breaking work, *The Biosphere*, being an early exception. And yet Vernadsky made major contributions—in crystallography, mineralogy, hydrology, cosmochemistry, and meteorology, among other fields. He can well be considered the founder of the field known as biogeochemistry, that is, the study of how living matter transforms the inorganic universe. There are photos of the work and staff at his biogeochemistry laboratory in St. Petersburg in the 1930s. He was the first Russian scientist to urge the development of nuclear energy in Russia almost at the turn of the previous century, shortly after atomic energy was discovered.

Vernadsky was also a historian of science, and his vision of scientific work would have great relevance for scientists today, particularly his understanding of the new role that science must play in economic development from the era that mankind had now entered. This is the way that Vernadsky viewed things in 1926:

> There exists in the biosphere a grand geological force, perhaps even cosmic in nature, whose planetary nature is not taken into consideration in our concept of the cosmos, that is in our concepts based on science. This force neither appears as a new special manifestation or form of energy, nor may it simply be an expression of known energies. Nevertheless, the action of that force exerts a profound and powerful influence on the course of the Earth's energetic phenomena and consequently




*Space pioneer and visionary Krafft Ehricke (1917 – 1984), a friend and collaborator of Lyndon LaRouche and Helga Zepp-LaRouche*

> must undoubtedly have reverberations, albeit less powerful beyond the Earth's crust, in the existence of the planet itself. That force is the intellect of Man, directed and organized through the volition of man in his social existence.

Vernadsky later called this new era the era that we have entered, where science is primary, the era of the Noösphere.

Vernadsky was also a preeminent organizer of science. In Russia during World War I, he took the initiative to organize the Committee on the Study of the Natural Forces of Russia (KEPS), which would bring together existing knowledge of strategic war materials and gather new information about Russia's resources.

But I would like to focus today on Vernadsky's Ukrainian side, given the events that are going on in that country today. In particular, I would like to upset the apple cart of the myth the present Ukrainian government is pushing that they have never been a part of Russian culture and history, except perhaps as victims. Pushkin Street is now becoming Stephen King Street. Gagarin Street is now Neal Armstrong Street. Tolstoy's *War and Peace* can no longer be taught in Ukrainian schools because it praises Russia's army in its fight against Napoleon. What a travesty! What a total impoverishment of culture for young Ukrainians! And what a distortion of real history. Unfortunately, we in the West have largely been following suit in our own restrictions on Russian singers and artists.

The St. Petersburg-born Vladimir Vernadsky loved Ukraine. His family had its roots in the Zaporizhzhia Cossack region of Ukraine. His parents were both born in Kyiv and spoke fluent Ukrainian, which Vladimir taught himself. His mother sang Ukrainian songs at home. Much of his creative and revolutionary work in the study of living matter was nourished in Ukraine and its flourishing natural endowments.

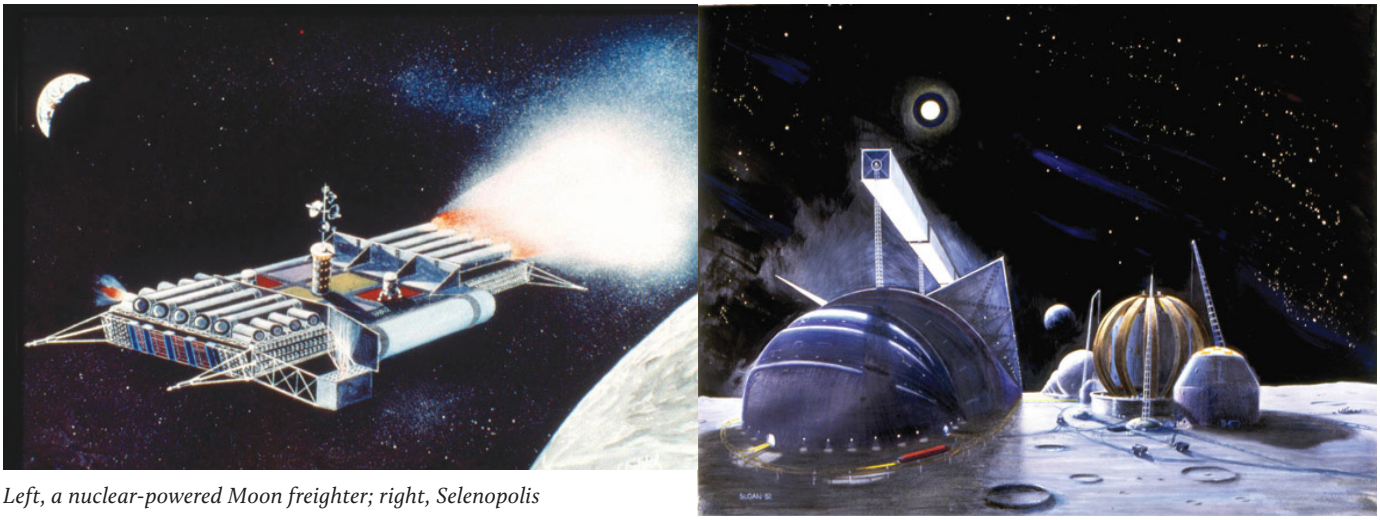
## The Ukrainian Academy of Sciences

While Ukrainian culture and language were often banned by the Russian Empire, Vernadsky and many other Russians supported Ukraine's desire for autonomy and the rights of its culture to develop. In 1918, Vernadsky, then at his Summer home in Poltava, Ukraine, on a sabbatical leave from St. Petersburg, due to the Bolshevik Revolution, received an invitation from a Ukrainian colleague to come to Kyiv to help organize the intellectual life of the region. Ukraine had been lost to Russia in the peace agreement signed by the Bolshevik government with Germany. Ukraine was thus under German occupation. But Vernadsky had already participated in discussions earlier in St. Petersburg with Ukrainian colleagues concerning the possibility of creating a Ukrainian Academy of Sciences as a part of the St. Petersburg Academy. Vernadsky accepted the invitation.

He himself had done extensive studies of the history of the academy movement in France, in America, and in Russia. His view, however, was that in this new era, when scientific thought had become a geological force, a different conception of the academy was required. It must not simply be a gathering of noted scientists coming together to discuss scientific questions, but rather must serve as the basis of [what we might call] a "Manhattan Project style" mobilization of the entire intellectual forces of the nation to lift the country to a higher level.

His proposals envisioned the creation of an autonomous academy, which would have the full financial backing of the government, but whose faculty would be self-selecting and empowered to determine its direction and curriculum. Under it would be a National Library that would accumulate all the available intellectual material vital for the life of the country, in all languages—books, manuscripts, musical scores, unpublished literary remains of important intellectuals, etc. It must incorporate the works of world culture and be open to the world. At the same time, there must be set up studies of Ukrainian literature and culture and a commission appointed for the creation of a dictionary of the Ukrainian language. The library must be open to all and free of charge.

The academy project would also subsume a national program of education and research—an agronomical institute, a chemical laboratory, an institute for biological studies, a meteorological observatory, a mineralogical museum, and a museum of history. Vernadsky also created, as he had in Russia, a study for the productive forces of Ukraine. The proposal for the creation of the Academy was accepted by the government, and Vernadsky was elected by the faculty as its first president.



*Left, a nuclear-powered Moon freighter; right, Selenopolis*

One must keep in mind the instability of the political situation in Ukraine at the time. During the period of the organization of the Academy, 1918–1920, there were more than three governments. When the Germans left after their defeat in the West, a radical nationalist government took over in Ukraine, later to be overthrown by the Bolsheviks. In addition, like today, there were a number of Western nations hovering around Ukraine, waiting to see who would get the choice bits of this heartland country—France, Britain, Poland, Romania, but especially the British were predominant, as Vernadsky himself indicated.

But the Academy lived on through this political turmoil as did Ukraine, which then became a part of the Soviet Union. Vernadsky also brought in people from the Russian Academy to help with the organization of the Ukrainian Academy, and given the way that Ukrainians during the Russian Empire had been relegated to simple "Ukrainian studies," the bulk of educated scientists were Russian. Vernadsky would use them, initially, while preparing Ukrainian aspirants that were beginning to come into the science fields in education. One can even say that the basis of Ukrainian nationhood had been laid by an individual who is the foremost representative of Russian science.

If Ukraine could return to this tradition today, it would help to undo the damage that has been done by the Anglo-American "divide and conquer" policy, which has pitted Ukraine against Russia in NATO's proxy war.

The Ukrainian Academy lives today as does the National Library of Ukraine, which still bears the name of Vernadsky. Vernadsky's picture, as far as I know, still graces the 1,000 hryvnia bill, the currency of Ukraine, although someone has now proposed that he be replaced by a picture of Ukrainian fascist icon Stepan Bandera—another piece of insanity coming from a rather discombobulated nation.

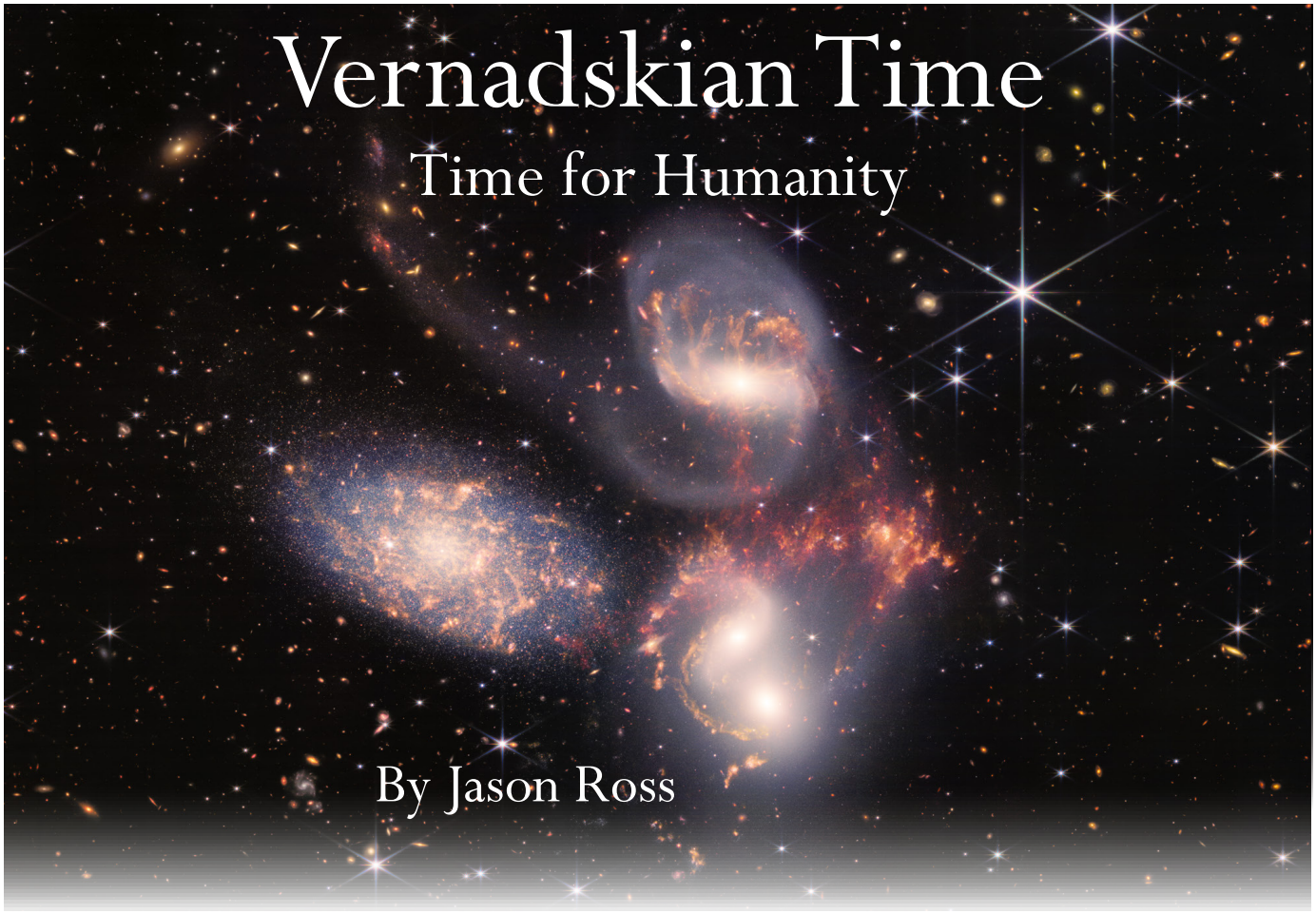
For us, the lesson must be to return to our own best traditions, which are also being subject to a similar "cancel culture" campaign similar to the one that has seriously disrupted the sanity of the Ukrainian nation. We had a "Manhattan Project" style science program in the 1960s under John F. Kennedy, in which the objective of sending a man to the Moon and returning him to Earth became the single objective of our leaders, our educational system, and our scientific institutions. This created, in turn, a tremendous sense of optimism among the population. We lost that and we have suffered dearly because of it. We can read the dismal results of it every day in our papers.

But to achieve that today, we must reject the small-mindedness of our present political leaders. Other nations are following this example, China in particular, most assuredly, and so is Russia, albeit under oppressive circumstances created by the West. If we try to cut off trade and to restrict the exchange of scientific information and conduct a policy of virtual technological apartheid against China and other nations that want to develop their own scientific capabilities, we violate everything that actually made America great.

We must go back to the Moon, but not as some imperial Colonel Blimp who hopes to plant the flag and conquer it for the motherland, but as a representative of humanity on the move in collaboration with other spacefaring nations, including China and Russia—and with the aim of making *all* of mankind a spacefaring species.

China has just produced a geological map for exploiting the resources of the Moon, thanks to the efforts of the head of the Institute of Geochemistry, Ouyang Ziyuan, the father of China's Chang'e lunar program.

Here, we have two paintings—one, a Moon freighter, painted by Krafft Ehricke. And another, based on a drawing by Krafft Ehricke, who was too ill with leukemia to finish it himself, so he sent it to a colleague of Lyndon LaRouche, Chris Sloan, to paint it. This is Selenopolis, Krafft's city on the Moon. Let's get around to building it!



# Vernadskian Time

## Time for Humanity

By Jason Ross


### Abstract

*Vladimir Vernadsky's concept of the different phase spaces of abiotic processes, life, and cognition, serves to illustrate the errors of trying to build up the entire universe from abiotic processes while implicitly rejecting the possible existence of uniquely biological or noetic principles.*

*In his 1930 "The Study of Life and the New Physics," Vernadsky directly addresses the hereditary errors in the cosmos of Newton: that the concepts of space, time, energy, and matter are final, that they can be determined from purely abiotic experiments, and that there is a fundamental distinction between the studied universe and the minds that study it. Here, I will (1) demonstrate several ways in which space, time, energy, and matter are not the same in the abiotic, the biological, and the cognitive domains, and do not have the same meanings as they had in 1900, (2) reveal the absurdities of applying the laws of thermodynamics to living and human systems, or to the universe as a whole, and (3) give specific applications of Vernadsky's outlook to novel types of time, including absolutely unique aspects of human time, which shed light on the conditions which must be fulfilled for a principle to truly be universal.*


### Introduction

Humanity is unique among known physical and living processes: it has characteristics that differentiate it absolutely from lower domains, including an absolutely unique quality of *time*. Singular expressions of human time are brought into sharper relief by examining specific inabilities of lower forms of time to comprehend human activity. One example is the concept of time embodied in the laws of thermodynamics, whose misapplication to domains outside their legitimate scope has resulted in such extrapolations as the "heat death of

the universe" and a supposed tendency of the entire universe towards "disorder."

Problems arise when a term or concept developed in one context is applied in other contexts without sufficiently reconsidering the term's suitability, or its meaning. While this is particularly common when the terms have everyday meanings in addition to scientific ones (such as "action"), the laws of thermodynamics, particularly the second one, are inappropriately and recklessly applied in fields in which their application is in doubt until they were developed anew as required principles in that field. A glaring error is in the explanation of the second law of thermodynamics as mandating a universal increase in "disorder" and then committing the outright fraud (or extreme laziness) of illustrating this for students through discussions of chaotic dorm rooms and messy desks. While "disorder" is a poor word to use even when discussing the physical concept of entropy in abiotic micro-contexts, it has absolutely no meaning when applied to macro-scale objects.[1]



*Vladimir Vernadsky, (1863 – 1945)*

Clear examples of concepts whose meanings change with the development of later insights are given by the Ukrainian–Russian biogeochemist Vladimir I. Vernadsky in his 1930 "The Study of Life and the New Physics," in which he directs particular attention to the errors of the Newtonian conception of the Cosmos—in which the investigating mind is separated from the investigated world—and to the changing meanings of space, time, energy, and matter, four concepts which he points out have a different meaning to the scientist of 1929 than they had in 1900.

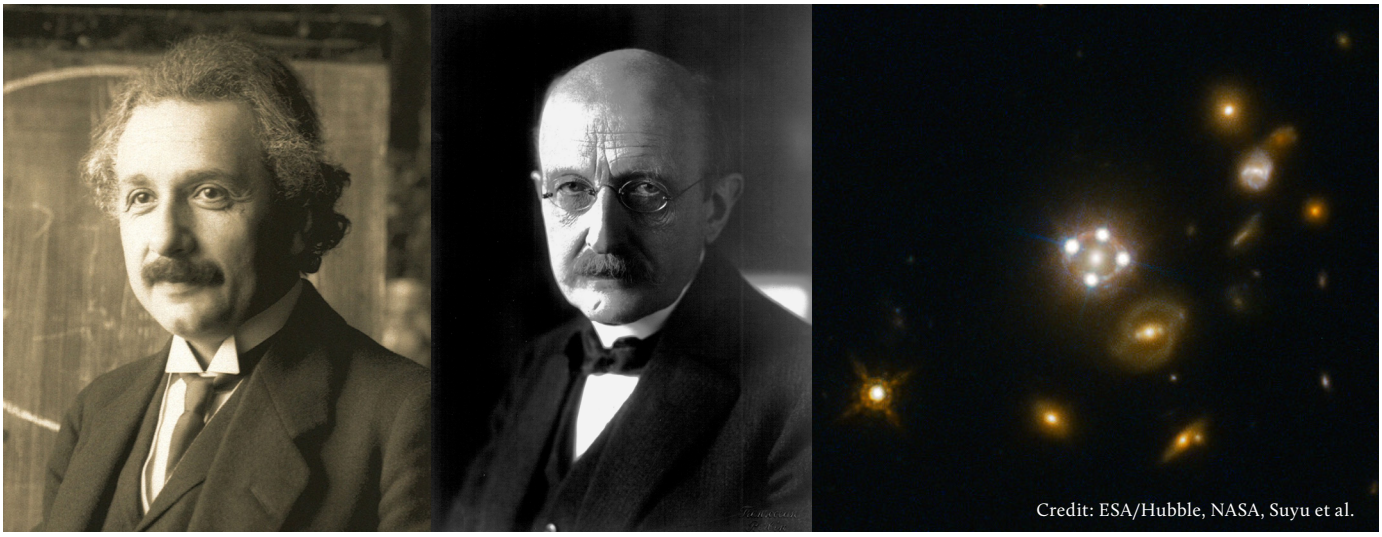
The development of new concepts, inexpressible in terms of the former language, is the most powerful expression of human creativity: an action which cannot be performed by logic or by any form of artificial intelligence. This uniquely human ability to create *metaphors* (concepts which can be conveyed only through *specific inabilities* to express them in the previous language) is the basis of modern science, and is an increasingly powerful, and ultimately *the most powerful*, force of nature.

In this article, several failures of mis-applying concepts in inappropriate contexts (the laws of thermodynamics, and the arrow of time) are addressed in light of Vernadsky's calls for biology and cognition to serve as bases for new developments in physics. This article will: (1) demonstrate several ways in which space, time, energy, and matter are not the same in the abiotic, the biological, and the cognitive domains, and do not have the same meanings as they had in 1900, (2) reveal the absurdities of applying the laws of thermodynamics to living and human systems, or to the universe as a whole, and (3) give specific applications of Vernadsky's outlook to novel types of time, including absolutely unique aspects of human time, which shed light on the conditions a principle would have to fulfill to truly be considered "universal."

## Vernadsky's Context

In his essay "The Study of Life and the New Physics," Vladimir Vernadsky writes: "Space, time, matter and energy are clearly distinguished for the naturalist of the year 1929, from the space, time, matter and energy of the naturalist of 1900." The work of Max Planck and Albert Einstein on the quantum world and relativity dramatically changed the meanings of these four terms. Although the same words were used, the concepts behind them were incompatible with those laid down by Newton, who wrote that "absolute space, in its own nature, without regard to anything external, remains always similar and immovable," and that "absolute, true and mathematical time, of itself, and from its own nature flows equably without regard to anything external."

1 Entropy, a measurable physical concept developed to explain the quantity of energy available to do useful work, was found to increase (or remain constant) in all processes of closed systems. This increasing entropy, which gives a time-direction for physical processes, has frequently been inaccurately described as representing an increase in the "disorder" of a system. This concept of disorder has been applied to domains far afield from physics and physical chemistry. Many students learn of entropy through analogies of the increasing disorder of a desk or room, unless effort is made to tidy things up. But the objects on a desk do not move on their own or "tend" towards any new configuration of their own accord; they are moved by human beings.




*Left: Albert Einstein; center: Max Planck; right: a phenomenon known as an "Einstein cross" in the direction of the Eridanus constellation. According to Einstein's general theory of relativity, the gravity-induced curvature of space-time affects the propagation of light. Here, the Hubble Space Telescope photographed a bright quasar that has a galaxy in between it and our galaxy, causing the light from the quasar to "bend" around it, making it appear as though there are four objects in addition to the one in the center.*

Under Einstein's theory of relativity, space itself was no longer indifferent to objects in space, and no longer always similar to itself: instead, it scaled along directions of motion, and it curved gravitationally. Although the concept of location had not disappeared, changes arose in the distances between locations, and space now had a measure of curvature, rather than being flat.[2]

Similarly, Einsteinian time is considerably at odds with Newtonian time. Rates of flow of time vary with relative motions and with gravitational fields. The very notion of "moment" was shown to be different for different observers: to one observer two events might appear simultaneous, while to another observer, one event would appear to follow the other. For Einstein, the very notion of a particular "moment" in time only has meaning with respect to a particular observer in space (and motion). Space and time were no longer separable, or devoid of local characteristics.

Matter and energy were considered distinct in 1900; separate conservation laws of matter and energy held that all physical changes maintained the same amount of matter and the same quantity of energy, before and after the change. Yet, according to Einstein, these two concepts did not refer to wholly separate domains, but rather were related through the equation $E=mc^2$, which relates energy (E) to mass ($m$) times the speed of light ($c$), squared. This implies the possibility of mass vanishing and becoming energy, or energy turning into matter. Work in the nuclear field confirmed that an astonishing amount of energy—in the form of radiation and fast-moving particles—was released from radioactive materials, along with a slight decrease in their mass, in accord with $E=mc^2$.

**Since human discovery changes our relationship to the rest of the universe, and since the number of discoveries remaining to be made is always infinite, the "laws of nature" will never be fixed.**

Another concept that saw a total transformation in the early years of the 20th Century was the conflict between continuity and discreteness in physics. A magnitude is continuous if between any two values there always exists another value; a discrete concept has a smallest possible change. For example, a violinist can change pitches continuously by moving their finger along the neck, whereas the notes on a piano are discrete—there is no key between B and C. There is no smallest possible change in pitch on a violin, whereas the musical half-step is the smallest change in pitch on a piano. (A pianist can play wrong notes, but they're still identifiable notes. A violinist can emit pitches that aren't specific notes of the scale at all.)

This distinction was famously seen in physics in two areas: that of matter and of light.

The concept of the *atom*, that there is a smallest component of matter that cannot be further divided while maintaining its character, goes back to Democritus, nearly 2500 years ago. But without actually seeing or be-

2 For more on "flat" versus "curved" space, see Jason Ross's video *Bernhard Riemann: The Habilitation Dissertation*.



*Louis de Broglie, (1892 – 1987)*

ing able to measure individual atoms, it was not a hypothesis that could be demonstrated. In the latter decades of the 1800s, there still remained physicists who denied the existence of atoms, believing that carbon (for example) was a simple substance that could be divided into smaller and smaller pieces without limit. But a few decades later, essentially no one doubted the existence of atoms. The ability to measure specific numbers of atoms, and the advent of nuclear science, had transformed the parameters of the continuous-vs-discrete debate.

Although Isaac Newton insisted that light was composed of particles (and gave a famously absurd explanation of refraction), the work of Christiaan Huygens and, later, Augustin-Jean Fresnel, gave conclusive support to understanding light as a wave, based on Fresnel's explanation of interference, diffraction, and polarization. The corpuscular (particle-based) theory of light was abandoned.[3]

That changed in 1900, when Max Planck developed a new hypothesis to explain the spectrum of light emitted by hot bodies (such as light bulb filaments). The new hypothesis—which astonished Planck himself—required that light be emitted and absorbed by bodies *in discrete amounts*. Light of a given wavelength (color) would hav to come in minimum units, now called photons.[4]

Thus continuity became a paradox for light. Its wave nature explained interference, diffraction, and polarization; but the black body radiation studied by Planck, and, later, the photoelectric effect studied by Einstein in 1905, required that light exist in discrete particles. In 1924, Louis de Broglie hypothesized that matter itself had wave characteristics, a hypothesis demonstrated experimentally in 1927.[5]

Over the course of only three decades, these four basic concepts of physical science—space, time, energy, and matter—were radically transformed, by work on the domains of the very small (Planck) and the very large (Einstein). How might work on the domain of life further transform these basic concepts? Vernadsky poses the question:

> Cannot the life sciences effectively change the fundamental representations of the scientific universe—the representations of space, time, energy, matter—in a radical way? And is this list of fundamental elements of our scientific thought complete?[6]

## A Brief History of Thermodynamics

### Up to the First Law

Before the 1800s development of thermodynamics, heat, matter, and mechanical energy were considered quite differently. In the 1700s, heat was related to a substance known as *phlogiston*, which was considered to exist in bodies capable of being burned, during which process the phlogiston was released as the fiery heat. This also explained why ashes weighed less than the substances that were burned: they had lost their phlogiston.

But the great chemist Antoine Lavoisier (1743–1794) demonstrated, by careful measurement, that when metals were burned (or rusted), their mass *increased*, thus contradicting and invalidating the previous theory. Lavoisier introduced the concept of *caloric*, a "fluid" of heat, which flowed into bodies being heated.[7] By this theory, caloric was a substance, and its total quantity was conserved as it flowed from hot bodies to cold ones, or was released from them chemically. As the economic potential of heat-powered engines became apparent in the early 1800s, Sadi Carnot sought to understand the potential power output of such machines. He studied their oper-

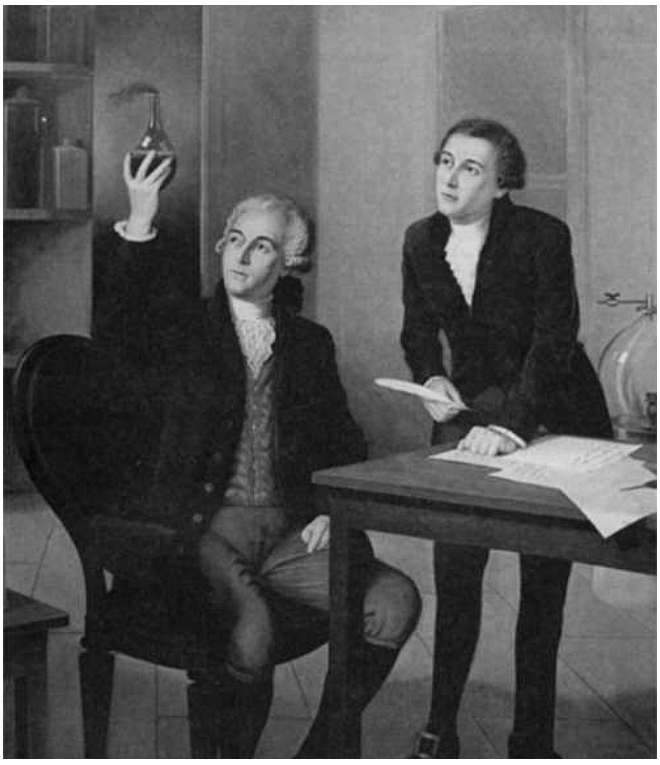
3 The wave theory of light prompted a new question: *what is the medium that is undulating?* An ocean wave is a kind of motion of water. Sound waves are based on compression of air. What about light?

4 This did not eliminate the wave understanding of light: while some experimental contexts seemed to demand the particle nature of light, others (indeed, most) required that light act as a wave. For more on the birth of the quantum, and the errors of the Copenhagen Interpretation of quantum mechanics, see Jason Ross's video *A New Quantum Physics: Rejecting Zeus*.

5 In 1905, Einstein discovered that reality demands a connection between energy and matter. Additional discoveries made over the following two decades demanded a new concept to overcome the what had been a separation between the discreteness of matter and the continuity of (light) energy.

6 V. I. Vernadsky, "The Study of Life and the New Physics," 1930, available in English, translated by Meghan Rouillard, 2015. https://www.amazon.com/Study-Life-New-Physics/dp/1514637103/

7 Lavoisier also developed a powerful conservation principle: that in all chemical and mechanical changes, the total quantity of matter would be conserved, and that the total mass of each element, considered individually, would also not change.



*Antoine Lavoisier and his student Éleuthère Irénée du Pont study combustion.*

ation and developed specific mathematical relationships between the flow of heat (as caloric) and the potential physical work accomplished, including a calculation of a heat engine's maximum theoretical efficiency.

Heat and mechanical work came to be unified under a common understanding called *thermodynamics*. In the 1840s, James Prescott Joule performed experiments in which a falling weight caused paddles to agitate and heat a reservoir of water; mechanical work was transformed into heat, meaning that caloric (if it were a real substance) was being created, and mechanical energy was being used up to bring caloric into being. Joule unified heat and mechanical energy, by determining a mechanical equivalent of heat, relating the calorie (a measure of heat) to mechanical energy (measured today in joules).[8] The principle of the conservation of energy could now be expanded, in a rigorous way, from the domain of mechanical dynamics to the field of *thermo*dynamics. Processes could involve a transformation between (mechanical) energy and heat flow, but never the creation or destruction of *total thermodynamic energy*, a concept embracing both domains.

Further research on the relationships between heat and mechanical work revealed that heat did not exist as a substance. Although a gas under certain conditions and at a certain temperature could be said to contain a certain quantity of *energy*, it could not be said to contain a definite quantity of *heat*, of caloric. This was demonstrated by considering different ways of changing a gas system from one state to another, which would result in varying amounts of work or heat-flow, depending on the means taken to go from one state to the other. Thus, one state of a gas could not be said to contain a specific excess of heat compared to another state; caloric is not a substance. The caloric theory of heat faded: heat was considered not as a substance that flowed between bodies, but only as a flow itself. That is, heat *flow* could be measured, but heat *content* no longer existed as a scientific concept.

The results of this research were expressed in what are known as the laws of thermodynamics.

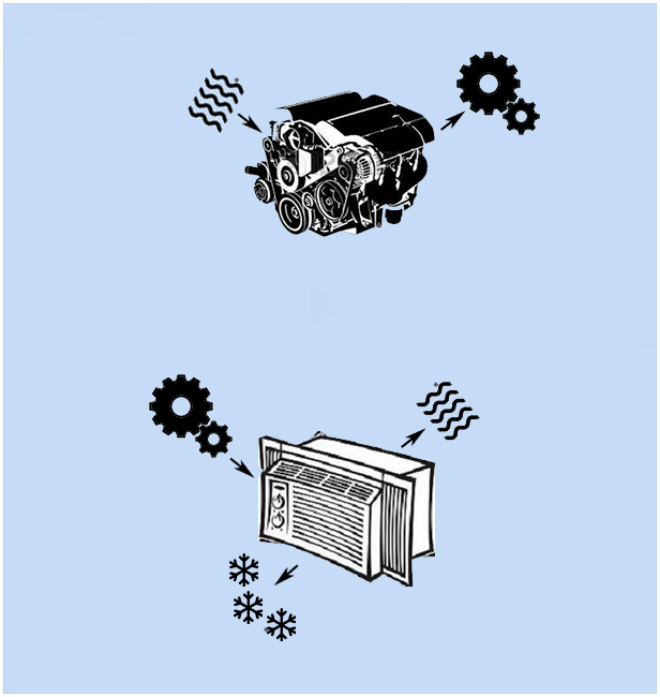
The first law of thermodynamics states that the total quantity of energy in a closed system is conserved. The energy may be transformed among in various forms, such as mechanical work performed, mechanical and gravitational potential, chemical potential (the ability of a fuel to give off heat when burned), heat flow, and the state-energy of a gas under different volume, pressure, and temperature conditions. Among all such energies, transitions could be made, but no process would result in energy being created or lost.[9] For example, a truck's engine transforms the chemical energy of its fuel into heat and mechanical energy, which is then applied to the wheels. Brakes transform motion into heat (and mechanical wear). Air resistance similarly transforms part of the truck's motion into heat and turbulence. In none of these transformations does the *total* quantity of energy change.

A specific possible efficiency of the transformation of heat-flow into mechanical work was developed, furthering Carnot's work. Given two heat reservoirs of different temperatures, one hot ($T_H$) and the other cold ($T_C$), the maximum ratio of heat from the hot reservoir converted into *work*, rather than that lost in simply heating the colder reservoir, is $(T_H–T_C)/T_H$, known today as the Carnot efficiency.[10] Considered in the opposite direction, this

8 Before the derivation of the mechanical equivalent of heat, the calorie—a measure of the heat required to change the temperature of a body—was considered as relating to a different domain of nature than the joule (or the foot-pound, used by Joule before the unit bearing his name existed)—which measured mechanical work. Joule determined that there was a direct measurable equivalence between quantities of heat energy and mechanical energy: a calorie is about 4 joules. The Calories in food (often written capitalized) are actually kilocalories, and are about 4 kilojoules each.

9 This concept finds its origins in the work of Leibniz, who wrote of the connection between *vis viva* (living force—today's kinetic energy) and *vis mortua* (dead force—today's potential energy), as in his 1695 *Specimen Dynamicum*.

10 For example, a combustion engine operating at a temperature of 1,000 K (730°C or 1340°F) as $T_H$, in an environment of temperature 300 K (30°C or 80°F) as $T_C$, would have a maximum efficiency of $(T_H–T_C)/T_H$ or (1,000 K–300 K)/1,000 K = 700 K/1,000 K = 70%.



*Top: In a heat engine, a flow of heat (created by combustion) is used to perform mechanical work.*
*Bottom: In an air conditioner or heat pump, mechanical work (usually created by an electric motor) is used to cause a flow of heat.*

relationship also gives the maximum possible efficiency of a refrigeration cycle, of the amount of work required to cause heat to flow from a colder reservoir to a hotter one: the mechanical work of the motor drives a compressor with the result of causing a flow of heat from the (cool) interior of a refrigerator to the (warmer) air of the kitchen. This maximal efficiency follows from general considerations of systems of gasses, and the conservation of energy.

When the principles of mechanical physics are combined with this law of thermodynamics, it is possible to describe how a thermomechanical system will change. At each moment, given the state of the system and how it is currently changing, the state and nature of change it will take in the next moment can be determined, as can the state and nature of change it must have had in the preceding moment.[11] For these principles, the past and the future are equivalent, differing by being in opposite directions according to time, but having no fundamental difference otherwise.[12] The future can be determined just as accurately as the past. In this way, past and future, forward and backward in time, are analogous to left and right in space: they can be described as opposites, but there is no fundamental distinction between the two directions themselves.[13] These physical principles can be said to be time-symmetrical, or *reversible*. Nothing in the phenomena described by physical dynamics or the first law of thermodynamics serves as a basis for intrinsically differentiating the past from the future, or before from after—there is nothing to define a particular direction of time beyond their simply being opposites.[14]

## The Second Law is Developed

Based on the common observations that heat was never seen to flow of its own accord from a cold object to a hotter one, that gasses would tend to diffuse rather than to concentrate, and that friction, found in almost every process, gave rise to a definite direction in time by converting motion into heat, a new concept was born. What is now known as the second law of thermodynamics was developed in the mid- to late-1800s by Rudolf Clausius, Ludwig Boltzmann, Josiah Willard Gibbs, and Max Planck, among others.

This new hypothesis required a new concept for its expression: "entropy"—a term which can roughly be understood as measuring the amount of energy in a system unavailable to do work. Clausius understood entropy as a function of the state of a gas—a new function of its mass, volume, temperature, and pressure—and noted that, in a closed system (without external work or heat-flow), this quantity was never found to decrease.[15] Of the total en-

Thus, at most 70% of the heat generated in the engine could be converted into mechanical work, while 30% would simply heat the colder surrounding environment. This is the maximum theoretical efficiency of an engine operating at these temperatures. (Cars and trucks have an actual efficiency of about half this maximum.)

11 For example, knowing the position and speed of a swinging pendulum at one moment allows the prediction of its later motion as well as a reconstruction of its previous motion.

12 An ideal heat engine, reversed, is an ideal refrigerator. The transformation of heat into work, with some flow of heat into a cold reservoir, can be reversed by the application of work to add the heat back to the hot reservoir, causing a flow of heat out of the cold reservoir. Heat engines and refrigerators (heat pumps) are the same process, viewed in opposite ways.

13 This can help explain the difficulty children have in developing a sense of left and right.

14 Max Planck writes, in his *Treatise on Thermodynamics*, "From the point of view of the first law, the initial and final states of any process are completely equivalent."

15 For readers desiring a more specific treatment, the change in entropy can be briefly stated as $\Delta S = \int dQ/T$, where the change in entropy (S) is the integral of the heat absorbed (Q) divided by the temperature (T). In his *Treatise on Thermodynamics*, Planck derives a general function for the entropy of a gas: $\Phi = M(c_v \log T + R/m \log v + \text{constant})$, where $\Phi$ is the entropy, M the mass of the gas, $c_v$ the specific heat of the gas at constant volume (the amount of heat applied to change its temperature), T the temperature, R the ideal gas constant, $m$ the molecular weight, and $v$ the volume per mass of gas, from which he shows that the change in entropy would be $\int dQ/T$ under certain conditions. Entropy was a new physical concept, not derivable from earlier theories.



Credit: BruceBlaus

*The spread of dye in the beaker is an example of an irreversible process. As time progresses, the dye spreads itself out throughout the liquid. But we never see it concentrate itself back into a single drop. Another example is the melting of an ice cube in a hot cup of tea. The ice melts and the temperature throughout the tea becomes uniform. But we never see warm tea transform itself into hot tea with an ice cube floating in it.*

ergy in a system, the amount that was "free" to do work would decrease over time, as the entropy increased. Entropy made it possible to define the direction of time: the entropy of a closed system can never be lower "after" than it was "before." Rather than *before* and *after* simply being opposites, a specific concept, entropy, now defined an arrow of time. *After* has a higher entropy than *before*.[16]

Under the second law, reversible and irreversible processes are distinguished. Reversible processes involve no change in entropy. Examples include the swinging of a pendulum in a vacuum (without friction), the motion of a planet around a star, or the ideal compression and expansion of a gas shock-absorber.[17] Reversible processes do not have an intrinsic time or a final state that they head towards. Such a theoretical pendulum would go back and forth in the same way forever. Watching a short video of the pendulum, you wouldn't be able to say whether the video was from today, a week ago, or a thousand years in the future, or whether you were viewing the video in reverse. It would never stop swinging, and its past would be just the same as its future.

Irreversible processes, however, do involve a change in entropy, always moving towards higher entropy as time moves forward. Examples of irreversible processes are the creation of heat by friction, the expansion of a gas without doing work, or heat flowing from a hotter body to a cold one.[18] For example, if you put an ice cube in a cup of tea, it is clear that that cooler cup of tea without the ice cube came after the hot cup of tea with the ice cube. Since irreversible aspects are present in almost any process, the concept of a truly reversible process has a meaning which is mostly theoretical.

The atomic theory of matter made for a complication in the understanding of entropy, which was resolved through the use of statistics. On the micro-scale, the individual atoms and molecules making up gasses were considered to behave according to dynamic (reversible) physical laws, and thus the difficulty arose of reconciling an increase in entropy (irreversibility) on the macro-scale, with the reversible nature of the components which made up those macro-states. How could there be an intrinsic direction of time, if the behavior of all the particles making up irreversible processes could individually be time-reversed?[19] For example, a gas allowed to expand (say by opening the valve on a compressed air tank) will do so. Yet, even though the motions taken by its individual particles

Entropy does not change if a gas is compressed or expanded by outside work, without the flow of heat, as in an ideal gas shock-absorber, making such a process *reversible*.

16 The increase of entropy now gives a *direction* of time. The dynamical laws of normal physics gave *rates* in time, without defining its direction.

17 Ideal, in the sense that the compression and expansion occurred very slowly, and the cylinder was so well insulated that no heat flowed to or from the surroundings.

18 Two brief examples may be useful. First, consider two bodies at different temperatures, $T_H$ (hotter) and $T_C$ (colder), and let heat flow from the hot body to the colder one. Using $\Delta S = \int dQ/T$, we can say that the change in entropy of the hot body, as it loses heat, is $-Q/T_H$, while the change for the colder body, gaining heat, is $Q/T_C$. The quantity Q (heat flow) is the same for both bodies, since we assume that all heat flowing from the hot body went to the cold one. The total change in entropy is therefore $\Delta S = -Q/T_H + Q/T_C$. Since $T_H$ is greater than $T_C$, the negative term $-Q/T_H$ will be smaller than the positive term $Q/T_C$, and the entropy has increased.

As a second example, consider the expansion of gas without doing any work and without external heat flow. Take two gas tanks connected by a valve, one full of gas, and the other totally empty. If the valve is opened just a bit, gas will flow into the empty tank until both have the same pressure. Experiments revealed that the temperature of the gas would not change overall, and the energy of a gas had been shown to depend only on its temperature, not its pressure or volume. Therefore, this experiment results in no change in internal energy of the gas. But, if we use Planck's entropy, $\Phi = M(c_v \log T + R/m \log v +$ constant), before and after the motion of the gas, we see that the only term that has changed is $v$, the volume per mass of the gas, which has doubled from $v$ to $2v$. Therefore, ignoring the terms that have not changed, the change in entropy is $\Delta\Phi = M(R/m \log 2v) - M(R/m \log v)$. This simplifies to $\Delta\Phi = MR/m \times (\log 2v - \log v) = MR/m \times \log 2$, which has a positive value. The entropy of the gas has increased with this expansion, and this is indeed the direction in which the process is always observed to occur. Gasses expand to fill available volumes, rather than spontaneously concentrating, leaving behind a vacuum.

19 Consider again the example in the preceding footnote, of a gas concentrated in one tank being allowed to fill both tanks. If this entire process were recorded and played in reverse, and we watched it with an imaginary molecular microscope, the motion of the gas particles in reverse (concentrating in one tank and emptying the other) would not violate any laws of physics. Nothing in the dynamics of the backwards-video would be amiss. Yet, gas is never observed to do this. How can the direction of gas motion be explained by entropy in the large, while examination of its particles reveals a process that could go in the other direction? This was the sort of problem addressed by Boltzmann's treatment of entropy.

could be reversed without violating laws of physics, we do not see gas spontaneously contract and rush into a canister. Why?

Very briefly, Boltzmann developed statistical mechanics to explain entropy from another standpoint. Rather than being a function of the conditions of a gas as a whole, it could be understood as a function of the number of possible configurations a gas's particles could take that would correspond to a given macro-state.[20] For example, the number of ways for gas particles to exist in roughly equal numbers in two connected gas tanks, is *immensely* greater than the number of configurations in which they are all found in only one of the tanks. The even distribution of the gas, with more possibilities, has a higher entropy. Boltzmann would argue that the existence of so many more ways for the gas to be equally divided into the two tanks is what explains its expansion over time to fill both. With these refinements, the gap between reversible micro-phenomena and irreversible macro-phenomena was bridged.[21]

> **"Space, time, matter and energy are clearly distinguished for the naturalist of the year 1929, from the space, time, matter and energy of the naturalist of 1900." – V.I. Vernadsky**

The laws of thermodynamics, combined with all the other laws of mechanical physics, unify heat and mechanics, and provide an arrow of time. While the physics of reversible processes have *before* and *after* only as opposites, the physics of irreversible processes give a definite direction in time for the evolution of the systems they apply to. The second law gives an intrinsic metric to differentiate *before* from *after*: entropy increases over time.

## The First Law of Thermodynamics is Not Universal

The first law of thermodynamics states that in all physical processes, energy is neither created nor destroyed.[22] The changing nature of "energy" will now be our focus, in two respects: (1) energy is actually *created* by human beings, and (2) in a case of re-contextualized meanings, economic "energy" is distinct from the energy of physics, as seen when we consider energy flux density.

In the 1800s, as the laws of thermodynamics were developed, any attempt to measure the total energy of our planet would have erred dramatically. Such an estimate would have included such factors as sunlight, chemical compounds (such as that in living matter, and in hydrocarbons in the planet's crust), elevations of physical structures (gravitational potential), the flow of wind and water, and the high temperature of the core of the Earth. While making such an estimate of the total energy available on the planet as a whole would be quite difficult, this is not the greatest problem with undertaking such an endeavor.

Rather, consider what would *not* have been included at all. Such a survey in the 1800's would not have included the nuclear fission energy potential of the planet's uranium and thorium, or the fusion potential of its deuterium. The estimate of global energy would have been wildly off, not only due to an inadequate understanding of the composition of the body of the Earth, but because the domain of possible sources of energy was incomplete: nuclear processes were unknown.

Through the development of nuclear science, did the human species *increase* the amount of energy on Earth, or only discover already-existing energy?

Resisting the urge to answer the question in physical terms which would exclude a specifically human response, the honest answer can be given: we have increased the energy *available to the human species* and expanded our economic capabilities. We have created what

20 While the second law is frequently expressed as an increase in "disorder," with recourse to examples of the disorder of macro-scale objects which do not change on their own (such as messy rooms and disorderly desks), this is the mis-application of the everyday word "disorder" out of its meaningful context of micro-states (where it is still a regrettable word) to the totally different context of macro-states. As Professor Frank Lambert humorously points out, objects in a room do not inherently move or lurch towards disorder. They are not a closed system; the cause of their motion is the people moving them, and does not lie in the objects themselves. See his excellent sites, available from the archived site: https://web.archive.org/web/20200220184216/http://secondlaw.oxy.edu/index.html, for more on the pedagogical disaster of using "disorder" to explain entropy.

21 Return to the example of footnotes 18 and 19. If the motion of all the gas particles were instantly reversed once they filled the second tank, they would indeed all move back into the first tank. But among all the ways of starting with the general state of two tanks full of gas, how many among the possible configurations of particle positions and momenta in the two tanks would result in all the particles moving into one tank? Only an exceedingly, incredibly tiny number among the impossibly enormous number of potential configurations. This is why, statistical mechanists would say, we do not observe gasses to spontaneously concentrate into smaller volumes. Although it is not strictly impossible from the molecular standpoint, it is incredibly unlikely.

22 Einstein's demonstration of the interrelationship of matter and energy shows the first law, as stated this way, to be untrue, because energy and mass can be interconverted (as in nuclear processes), meaning energy itself is not constant. We will focus here on a deeper issue with the first law.




*"I blame entropy."*

*A typical pop-science portrayal of entropy. Although this comic is a joke, students have been exposed to an incorrect explanation of entropy as "disorder" for decades. Cartoon by Mark Thompson, published in The New Yorker in 2012.*

could be called *economic* energy. A useful distinction can be made between the two natures of "energy": it both refers to something we have discovered about the external physical world, and at the same time refers to a mental tool that we use to advance our thought and power. *Human beings create resources*, including energy.[23]

Another example illustrates the importance of considering the quality of energy. Rather than only the quantity of energy, consider the energy flux density, the concentration of the power applied to a process. (See table 1.) Take the example of heating a home. We will consider two ways of providing the heat. The first is using fuel to directly create heat in the home through combustion (say of natural gas), and the second is using fuel to produce electricity in a power plant, and then using that electricity to power a heat pump.

In the first case, the efficiency of the furnace or boiler would be measured by the annual fuel utilization efficiency (AFUE)[24], which is around 85% for a typical modern unit. This means that 85% of the heat in the fuel is delivered to the air in the home.

Now, consider the case of using the natural gas to produce electricity, to then run a heat pump. A typical natural gas power plant converts only about 42% of the gas's heat into electricity.[25] Yet, the electricity, being a higher quality, more dense form of power than mere heat, is able to accomplish much more than heat can: electricity can run motors, power electronics, produce metals, etc. And even in heating a home, electricity is more efficient than heat itself.[26] By using a heat pump, which moves ("pumps") heat into the home from the outdoor air, electricity from the power plant is multiplied by a coefficient of performance (COP) for the heat pump, a measure of the heat supplied to the home as a ratio of the energy supplied to the pump. For common heat pumps, the COP is in the range of 2–4, meaning that several times more heat is delivered into the house than the energy used to operate the heat pump. Multiplying the electricity conversion rate (42%) by the COP, we obtain an "efficiency" value of 84–168%. This means that the home has received heat equal to 84–168% of the heat energy in the natural gas fuel. Recall that directly burning the natural gas in a home furnace would have provided 85% of the gas's heat to the home.

Therefore, converting natural gas to electricity and using a heat pump powered by that electricity can provide up to roughly *twice* the home heating (168% compared to 85%) as the direct use of natural gas as a source of heat. And this is only a case where the effects are comparable: supplying heat. Without transforming it into electricity, natural gas cannot be used to operate a telephone, a robot in a factory, or a traffic light system. No amount of natural gas *as a chemical* can produce an x-ray image of a broken bone.

This is a simple example of what Lyndon LaRouche refers to as a "curious feature" of technological development in his economics textbook *So, You Wish to Learn All About Economics?*

> [W]e tend to accomplish much higher rates of work with the higher energy-flux density of a fraction of the total power supplied to the machine, than with the entire power supplied at relatively much lower energy-flux density. It appears that less power accomplishes more work than a greater

23 Before metallurgy, malachite was used as a cosmetic, but became the main ore for producing copper when it became a resource for the new process of metallurgy. Petroleum was not a resource before the chemical era—it was a mess.

24 U.S. Department of Energy: http://energy.gov/articles/energy-saver-101-infographic-home-heating

25 Energy Information Administration: http://www.eia.gov/electricity/annual/html/epa_08_01.html

26 Except for very cold areas where heat pump efficiencies are too low to be useful.



*"Energy is actually created by human beings." Over the last two centuries, the physical capabilities of mankind have been increased in a non-linear, qualitative way through the unleashing of new scientific discoveries. New power sources and technological breakthroughs have opened to our use entirely new materials and processes, with the steam engine, electricity, and nuclear power among the most notable.*

amount of power.[27]

The "energy" of electricity can be measured in the same physical units as the "energy" of heat, or the chemical "energy" of molecular structure, but *these units do not fully express the economic usefulness (power) of that energy*. By considering the intensity of the energy, we can differentiate among levels of energy potential, such as the possibilities of: (a) a wood-powered economy, in which energy can be used for heating, cooking, some material treatments, and some metallurgy, (b) a coal-powered economy, in which steam engines can economically be used to transform heat into motion, allowing dramatic changes in production and transportation, (c) an electricity-using economy, where energy can be moved along a wire rather than by transporting fuel, where the potentials for production are increased by motors, metallurgy is transformed by electrolysis, communication changes fundamentally, and computer automation transforms the nature of productive work, and (d) a quantum-physics and nuclear economy of dramatically increased power capabilities,[28] laser and electron-beam technologies, and, with fusion, the potential to develop control over the inner solar system.[29,30]

While the first law of thermodynamics does apply on the physical level, where energy is neither created nor destroyed (excepting subatomic processes, where energy and matter are related by $E=mc^2$), the "economic energy" available to human economy, as qualified by the type of energy, most certainly *does* increase, through the human process of creative discovery. This increase is seen both in absolute terms, and even occurs when less total energy is recovered from fuel sources, by using that more concentrated power to greater effect.

When considering the universe *as a whole* (including the biosphere of life and the noösphere of human cognition), the first law of thermodynamics is not a universal principle.

## Wild Misapplications of the Second Law

The second law of thermodynamics has taken on a pop-science meaning in which is has been greatly simplified and the field of its application dramatically extended. Two major misapplications are in the concept of the "heat death of the universe," and in the notion that the second law indicates a universal increase of "disorder."

It was William Thompson (later Lord Kelvin) who is credited with first expounding on the inevitable dissipation of all forms of potential energy into mechanical motion and heat, with a result that "would inevitably be a state of universal rest and death, if the universe were finite and left to obey existing laws." His colleague Hermann von Helmholtz wrote of the "heat death" of the universe as its ultimate state, in which no more energy

27 Lyndon H. LaRouche, Jr., *So, You Wish to Learn All About Economics?*, second edition, EIR News Service, 1995, p. 10. https://laroucheorganization.com/sites/default/files/2022-10/SoYouWish.pdf

28 The power of nuclear changes is five to six orders of magnitude more dense (100,000 to 1,000,000 times greater) than chemical fuel. See Jason Ross's video *Forging Fusion.*

29 As in the use of fusion-powered spacecraft to reach any part of the inner solar system within a matter of weeks, rather than years. This is a necessity for planetary defense against asteroids and comets, for example.

30 For more on this series of economic platforms, see the 21st Century Science & Technology special report *Physical Chemistry: The Continuing Gifts of Prometheus.*




*Without technological progress, economies will decline. Over time, the best mines will run out of resources, and the effort to find, extract, and process materials through mining will increase, as miners must delve deeper and process less concentrated ores. This will draw down the wealth of the economy unless technological innovation improves our ability to access resources, or introduces entirely new replacement resources instead.*

would be available for any processes to make use of. This is the ultimate extrapolation: to apply current knowledge (which at the time, did not include nuclear processes[31]) to the *entire universe*, about which it will always be presumptuous to assume anything approaching a complete understanding. Since human discovery changes our relationship to the rest of the universe, and since the number of discoveries remaining to be made is always infinite, the "laws of nature" will *never* be fixed.

The other problem plaguing the second law, disturbing its repose as a legitimate and useful physical principle (in its proper domain), is the notion that it insists that the universe will become more "disorderly" over time. Although Boltzmann did indeed use the word "disorder"[32] in his discussion of entropy, it was in the context of expressing a characteristic of aggregates of gas molecules, of the number of states in which the gas particles could be said to be within a certain range of a given macro-scale condition, such as temperature, pressure, and volume. For example, a higher state of temperature allowing a greater diversity of particle motions, was thus a state of higher entropy. This use of the word "disorder" applies to aggregates of microscopic particles, moving about and interacting of their own accord. It manifestly does not apply to objects on a desk, dirty clothing heaped on the floor, etc. Clothes do not move around in large groups, colliding with each other and imparting kinetic energy according to statistical rules. The books in a library do not unshelve themselves and become disorderly at night while the librarians are not supervising them. These objects move due to outside causes: people. They do not spontaneously move of their own accord towards states characterized by a greater diversity of possible distributions.

There is no universal commandment that "disorder," in whatever context anyone might wish to apply the word, increases. The second law of thermodynamics, is, as its name indicates, a law of *thermodynamics*: not of biology or human society. The only legitimate application of the second law to larger-scale processes can be in discussing their thermodynamic changes, based on their component parts.

**There is no universal commandment that "disorder," in whatever context anyone might wish to apply the word, increases. The second law of thermodynamics, is, as its name indicates, a law of thermodynamics: not of biology or human society.**

## The Second Law of Thermodynamics is Not Universal

Beyond these wildly and foolishly irresponsible extrapolations of logic and linguistics, processes of life and human cognition provide further examples of the second law not being universal in scope. Although the second law cannot actually be applied to macro-scale processes to which it has no relevance, the prevalence of thoughts about universal "entropy" makes it worthwhile to address order and complexity on larger scales, with the caveat that this discussion is of the commonly used notions of entropy and disorder, rather than the legitimate physics concept.

A powerful economic concept helps make this clear—the concept of the necessity of progress. In his economics

31 Resulting in Thompson's inaccurate estimate of the age of the Sun.

32 Or rather, the German word *Unordnung*.




*Before photosynthesis, the early, deep biosphere was powered chemically, by emanations from the earth itself. The high-energy molecules would not last forever. But they were not a limit to growth! The development of photosynthesis allowed life to tap into an extraterrestrial power source: sunlight. The oxygenated atmosphere created by photosynthesis allowed much more concentrated forms of life to emerge, such as warm-blooded mammals, which have an extremely high rate of biogenic migration of atoms and of energy use. With human civilization, the biosphere is becoming the noösphere. As photosynthesis unlocked solar power, humanity unleashes the power of the atomic nucleus to bring the Earth into a nuclear era and beyond. Left, deep sea tubeworms feeding on a hydrothermal vent; center, photosynthetic plant life; right, mammal.*

textbook,[33] Lyndon LaRouche develops a global measure of economic progress: the potential relative population density of a society, as a function of that society's scientific and cultural practice. Relative to the level of human improvement of the land, how many people *could potentially be supported* per land-area? This is, roughly speaking, the potential relative population density (PRPD). Economic value lies in increasing the rate of increase of PRPD. LaRouche writes that while it is obvious that technological regression necessarily implies a decrease in PRPD, the implications of simply ceasing to progress are less clear. By the drawdown of more concentrated resources (energetic and raw material, for example), LaRouche reasons that the physical cost of providing the base resources will necessarily increase over time in a technologically static society (through the increased physical cost of mining less concentrated ores, for example), and this increasing cost will lead to a reduction of economic capabilities overall. Without continued technological improvement, society will regress; it is impossible to stay still.

From this context, the increasing entropy, and decreasing free thermodynamic energy of physical systems, can be seen as the relative, local regression of a system characterized, more universally, by its discontinuous advancements.

Clear examples are seen in the very similar domains of life on evolutionary scales of time, and of human economics.

Consider the development of photosynthesis. Before the development of life capable of using the energy of sunlight, terrestrial life depended on chemical energy, such as that utilized today by organisms living around deep-sea vents emitting high-energy molecules such as hydrogen sulfide. The total energy available to life was small, and was generated from deep-earth processes. From the thermodynamic standpoint, the energy potential of these molecules (and the processes generating them) would eventually be used up as the gasses escape the Earth's crust, while the Earth's cooling temperature produces less of them. While a modern-day environmentalist may have called for the conservation of scarce hydrogen sulfide, and for measures to be taken for its more efficient use, a different route was taken by life.

The development of photosynthesis meant that an entirely new, and immensely vast energy source—the sun—now became available to life, capable of supporting a great deal more biological material and energy flow, and an increase in the biogeochemical energy of living matter. Later, the move of life to land, and the new structures and processes required for it, unlocked additional photosynthetic capability.

While the local tendency may appear to be towards decreasing free energy when examining small physical systems, the characteristic of life *as a whole*, and of developing human society, is in precisely the opposite direc-

33 See chapter 2 of LaRouche's *So, You Wish to Learn All About Economics?*




*As Vernadsky indicated, the evolutionary development of the biosphere is accompanied by an increase in the biogenic flow of material and energy. Reptiles have an energy use of 230 kJ per gram per lifespan. For mammals, which maintain their body temperatures, the average is 1,600. Birds, with their mastery of the air, use an average of 5,280.*

tion. Or rather, not *precisely* opposite, in that the upward shifts occur as leaps, rather than the continuous decrease of free energy expressed by the second law of thermodynamics. An anthropomorphized system of hot gas may look with dismay and dread at the locally decreasing free energy, but life and cognition are not constrained by the abiotic concept of free energy.

Vernadsky demonstrates that the biogeochemical energy of life has increased over time. In a 1928 speech on evolution,[34] Vernadsky developed what he called his "second biogeochemical principle," which states that the evolution of species has an intrinsic direction, moving towards species which increase their chemical and energetic effect on the surrounding environment (in Vernadsky's terms, increasing the biogenic migration of atoms): "The evolution of species, leading to the creation of new, stable, living forms, must move in the direction of an increasing of the biogenic migration of atoms in the biosphere." More recent studies strongly support Vernadsky's second principle, indicating that the evolution of life (as far as currently observed) defines an arrow of time, always moving in one direction: towards greater energy use per species and greater corresponding effects on the biosphere.[35]

Looking at a larger (cosmic) scale, we see the irrelevance of physical entropy in understanding the development of the universe. As an example, consider the big bang theory, according to which the lowest-entropy, highest free-energy state the universe was ever in, occurred some billions of years ago, and everything has gone downhill since (from a thermodynamic point of view). Again, any increase in this physical quantity of entropy is absolutely irrelevant to cosmological "disorder" when we consider the manifest increase in order and complexity: the development of galaxies, stars, planets, and, around our sun, life and cognition. Perhaps a galaxy does have higher entropy than a collection of cosmic dust or the subatomic soup hypothesized to have existed within the first microseconds after the big bang, but this does not in any way indicate that it has more *disorder*, or is less interesting in its characteristics.

A human being, turning food into bodily motion and biological upkeep, is thermodynamically a drain on free-energy,[36] and yet is the source of creative de-

34 This speech, later added as an appendix to the French edition of Vernadsky's book *The Biosphere*, was translated by Meghan Rouillard into English as "The Evolution of Species and Living Matter" in *21st Century Science and Technology*, Spring-Summer 2012, pp. 32–44. http://21sci-tech.com/Subscriptions/Spring-Summer-2012_ONLINE/05_Species_Matter.pdf

35 See "Biospheric Energy-Flux Density," *21st Century Science and Technology*, Spring 2013.

36 Throughout this report, the use of "free-energy" is in the thermodynamic sense, as developed by Josiah Gibbs. It has no relation to "zero-point energy," "vacuum energy", or any other form of purported

velopments that qualitatively increase the mental tools and the useful energy available to the species.

*Human free-energy increases*, without paying any regard to locally decreasing thermodynamic free-energy.

Even the statistical mechanics interpretation of entropy, according to which the increasing entropy is measured as an evolution towards states of greater likelihood, of greater means of possibility, is opposite to the changes seen in life and humanity. Far from moving towards states of greater probability, evolutionary changes in life, and economic changes in humanity, move to states of *zero* probability, of previous *impossibility*. A future comes to be, which the physical past could not have created. Bronze Age humanity had available to it an entire array of processes and materials that simply did not exist in the Stone Age, just as mammals have molecules and biological processes that never existed in earlier life, such as reptiles, and which *could not*, because earlier life did not regulate its temperature.

In sum, we need not lose sleep about a physical quantity—entropy—getting larger, fretting that the future will be a disorderly heat-soup; rather we can instead look at the actual development over time of the universe and of our species, and see that they are characterized by contrary processes. Our understanding of the universe must include these phenomena of life and cognition, or it is appallingly incomplete. Increasing complexity, increasing biological energy, and increasing economic energy may cohere, *locally*, with the second law of thermodynamics, but are certainly not explained by it. The second law of thermodynamics is not *universal*.

## Reflections on Time

Comprehension of the characteristics of time in thermodynamics and physics gives a greater pungency to the different kinds of time seen in the biosphere and noosphere. To review: dynamical laws of physics, with the first law of thermodynamics, govern *reversible* processes, for which before and after are opposite directions in time, but lack any inherent difference. The *irreversible* processes covered by the second law of thermodynamics, have a direction in time, an inherent distinction between before and after, based on the concept of physical entropy increasing in the direction of the flow of time.

The *times* of life and of human thought differ significantly from purely abiotic time.

They present a new kind of irreversibility, demonstrate a quantized character, and depend more profoundly on their context.

A higher form of irreversibility is seen in the development of biological and human "technologies," such that *before* and *after* are distinguished not by a scalar quantity increasing in the direction of time-flow, but by the fact that *after* cannot be reached from *before*. That is, humanity in the nuclear age creates states of matter which could never have been created in earlier ages of human development, because the requisite technologies simply did not exist.[37] The time of human development is characterized by increasing our dimensions of action, rather than any (scalar) measure which has a meaningful value in all contexts.[38] The development of endothermy (warm-blooded life) is a relatively specific biological "technology" that allows these animals to support new biological processes that depend on a certain temperature range, and to expand the types of territories they can inhabit. Evolutionarily speaking, endothermy is *after* exothermy.

| **physical** | before | then | after |
|---|---|---|---|
| **cognitive** | past | now (present) | future |

*In the world of physics, before and after are separated by any moment, any then. But in the world of human cognition and free will, the moment of now separates past and future — concepts that do not exist in physics itself.*

The progress of evolution is seen quantitatively in the increase of characteristic metabolic rates over evolutionary development. To use a single metric, we consider the average energy use per gram of body mass per lifespan. This value is chosen in preference to metabolic rate itself because metabolic rate scales with body mass in a roughly three-fourths power relationship.[39] Since a number of characteristic times (lifespan, time to reach reproductive

energy which is "free" in the sense of having no cost.

37 *Time*, alone, did not bring about the future state. Stone Age masons, using only Stone Age technologies, would never separate the different isotopes of uranium, even if they worked literally forever.

38 Lyndon LaRouche has referred to the work of Bernhard Riemann on Abelian functions, as a means of more directly expressing increasing levels of complexity, incommensurable with the previous level. On this topic, see Jason Ross, *Bernhard Riemann: Potential and Abelian Functions*, part 1: *Riemann II(a): Potential and Metaphor* and part 2: *Riemann II(b): Abelian Functions*.

39 For example, a camel (434 kg) weighing 150 times as much as an opossum (3 kg), uses only 42 times as much energy (225 W) as does the opossum (5.3 W). Using the three-fourths relationship, 150^(¾) ≈ 42. This three-fourths power relationship was discovered by Max Kleiber in the 1930s. His empirical finding has been broadly supported by more recent data, but does not have a satisfying explanation from broader principles.



*"The course of humanity does not inexorably 'tend' in any direction; it is a series of nows, of constant opportunities for decision. When human time is used to make a fundamental discovery, the truest substance of the universe is made visible to the human mind: the substance of incommensurable development itself."* *Image: John Everett Millais's "Joan of Arc" (1885)*

maturity, heart rate, and respiration rate, for example) follow something like a one-fourth power of a species's mass, their product—energy per mass per lifespan—provides a value that is very broadly characteristic of a specific class of animals.[40]

The data reveal a clear development over evolutionary progress. Using a database[41] for lifespan data of non-aquatic vertebrates, we find that amphibians have an average energy use per gram per lifespan of approximately 210 kJ/g/lifespan. Reptiles are slightly higher, at 230 kJ/g/lifespan, while for mammals it is 1,600 kJ/g/lifespan, and for birds, 5,280 kJ/g/lifespan.[42] The increasing values, roughly characteristic of each of these classes of vertebrate life, point to the increasing rate of biogenic energy flow over evolutionary time.

This measure of the development of life over time, using a uniquely biological time as a measure, is the sort of study that Vernadsky called for.[43]

Vernadsky had the insight that biology would shed unique light on the subject of time itself. In his 1938 "Problems of Biogeochemistry II," Vernadsky writes:

> We are presently living through an extremely important epoch in the development of science. For the first time, the object of scientific investigation is *time*, which for centuries remained outside its scope. This circumstance characterizes the science of our time and distinguishes it from the science of the 19th century. It is now becoming clear, that time is an extremely complex manifestation of reality, and that the content of this concept is extremely rich.
>
> Speaking about space-time, we merely indicate the inseparability of one from the other. *For science there is no space without energy and matter, nor, in exactly the same sense, without time*. The conception of Minkowski and his predecessors, about time as a fourth dimension of space, is a mathematical abstraction having no logical grounding in scientific reality; it is a fiction, which does not correspond to the real content of science, nor to a true scientific conception of time. Time is not a dimension of metric geometry. Of course, time can be expressed in geometry by a vector, but it is obvious that such a representation of time does not subsume all of its properties in the natural phenomena studied by the naturalist; it provides him nothing real by way of knowledge. He has no use for it.
>
> Twentieth-century science is now at a stage, when *the moment has arrived to study time, in the same way as we study the energy and matter filling space*. Minkowski's time, considered as the fourth dimension of Euclidean space, does not correspond to the time, which is actually observed in physical space. We should not forget, that in concrete scientific work, we, generally speaking, are not dealing with the abstract absolute space of geometry. At every step, we are dealing with the much more complex *real space of Nature*.[44]

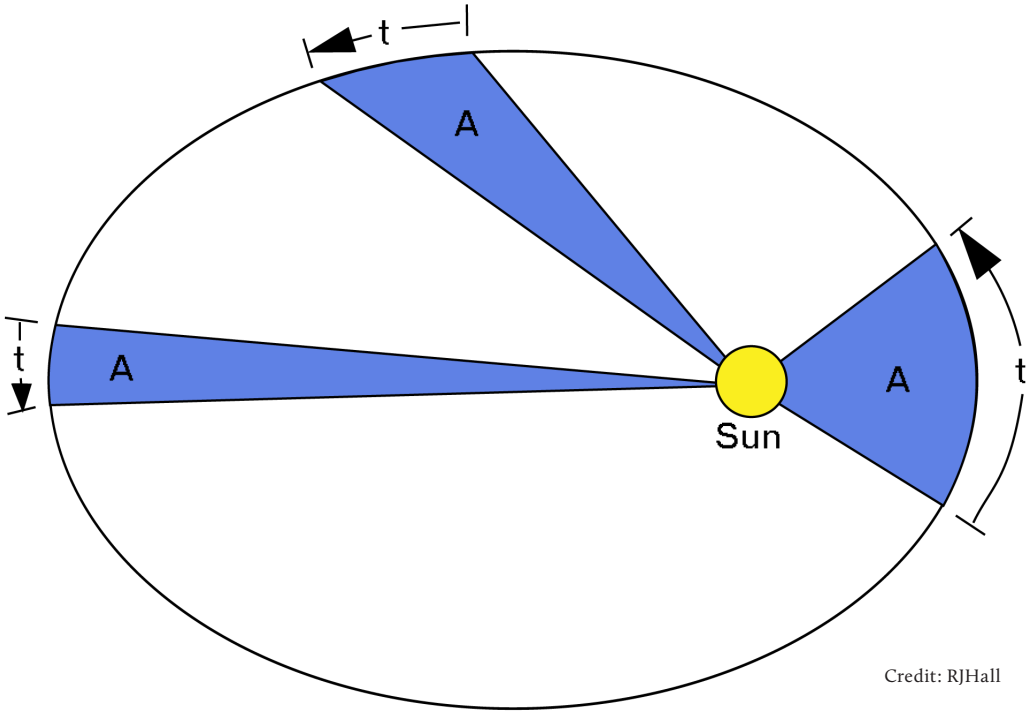
40 This combination of metabolic rate (mass^0.75) times lifespan (mass^0.25), yields a value proportional to mass itself. By dividing it by mass, we have a number that very roughly characterizes a class of animals. While the relationship is not exact (regression lines give powers of 0.88 to 1.14 in the classes mentioned, with significant variation), it is at least suggestive of the possibility of a form of quantization in biological time.

41 This is the *AnAge* Database. Reference: Tacutu, R., Craig, T., Budovsky, A., Wuttke, D., Lehmann, G., Taranukha, D., Costa, J., Fraifeld, V. E., de Magalhaes, J. P. (2013) "Human Ageing Genomic Resources: Integrated databases and tools for the biology and genetics of ageing." *Nucleic Acids Research* 41(D1):D1027-D1033: https://genomics.senescence.info/species/index.html

42 Distinctly avian life arose more than 100 million years later than did mammals. Flight itself is a major component of the high energy use of birds. Land-dwelling mammals use about half the energy per mass per lifespan as do bats. Similarly, among birds, the lifetime energy use per gram of body weight is roughly half as great for flightless birds as for their flying feathered kin.

43 Within life, Vernadsky differentiated metabolic time, generational time, and evolutionary time, and considered the characteristics specific to each, in his "The Problem of Time in Contemporary Science" (unpublished translation).

44 Vladimir Vernadsky, "Problems of Biogeochemistry II: On the Fundamental Material-Energetic Distinction Between Living and




Credit: RJHall

*Johannes Kepler revolutionized astronomy, physics, and science generally, by demanding a new standard for physical theories. A true theory must not simply match observation; it must explain why the action unfolds as it does. In astronomy, Kepler abandoned circles upon circles and geometry as the basis for the motion of the planets (how does a body keep an eye on the center of a circle, where nothing is to be found?). Instead, he hypothesized a physical cause in the sun, which resulted in the planets' speeds changing based on their distance from it. The result of his physical hypothesis was an elliptical orbit along which a planet sweeps out equal areas in equal times, but this ellipse is not a cause of geometrical motion, but rather the result of a physical process.*

An entirely new characteristic of time exists when considering the process of human cognition: the characteristic of *now*.

Recall that the first law of thermodynamics distinguishes before and after only as opposites; the second law of thermodynamics gives an inherent direction to time; living processes give a quantized nature of time (as in the cyclic nature of generational time); and evolutionary changes in life give an incommensurable direction of time, where *after* is distinguished from *before* by the existence of processes that could not have existed *before* (rather than the progress of some scalar value, such as entropy).

While the meanings of *before* and *after* have developed, none of these kinds of time has yet required a *now*.

*Now* is a particular kind of moment, distinguished from a *then*. While *thens* exist in physics, and can be distinguished from each other, *now* does not exist; it is not a concept required by phenomena. *Now* is not the moment between *before* and *after*; it is the moment between the *past* and the *future*. The laws of thermodynamics give a distinction between before and after, but these befores and afters can be before or after any particular moment, any *then*. Before and after are not the same as past and future. When is "right now," physically? What differentiates, fundamentally, *now* from an hour ago?

Furthermore, under Einstein's relativity, the concept of a universal time, of the possibility of a shared moment in time for different observers, has vanished with the disappearance of simultaneity. Recall that one event may appear to follow another to one observer, while both events could appear to be simultaneous to another observer.[45]

Therefore, a single moment in time, a universal simultaneity, cannot exist. *There can be no universal "now."* In what way, then, can *now* have meaning? What sort of phenomenon *demands the existence of a "now"*?

It is by the nature of free will that human beings have a *now*, the time of decision. The opportunity to willfully create incommensurable shifts like those seen in life only over evolutionary time, is present at every moment to the human individual: the opportunity in each *now* to make choices that are not predetermined, and which, when creative, are choices which distinguish the future fundamentally from the past, by dramatically transforming the possible domain of human action. These *nows* of discovery, these moments of creative insight, are the reason for the existence of economy as a characteristic of the human species, not seen in other life.

The course of humanity does not inexorably "tend" in any direction; it is a series of *nows*, of constant opportunities for decision. When human time is used to make a fundamental discovery, the truest substance of the universe is made visible to the human mind: the substance of incommensurable development itself.

Nonliving Natural Bodies of the Biosphere," *21st Century Science & Technology*, Winter 2000–2001, p. 38. Emphasis in the original.

45 This is demonstrated in the 2010 video *The Extraordinary Genius of Albert Einstein*, starting at 1:04:30.

## What are "Universal" Principles?

If extending principles beyond the domains of their initial discovery is fraught with danger, can any truly *universal* principles ever be known? Consider this warning from Vernadsky:

> In one case, in 1824 the young French engineer Sadi Carnot founded thermodynamics. Carnot's principle defines the unidirectional course of a process in time. Thirty years later, Rudolph Julius Clausius, then a professor at Zürich, in the principle of entropy, generalized this unidirectional process (which is expressed geometrically in space-time by a polar vector of time) to all of reality, as defining the "end of the world." In this form, this was an extrapolation of a logical thought, but not a phenomenon of reality.[46]

If universal "phenomena of reality" exist, how can they be sought? What could be the basis of potentially valid insight into universal principles, if extrapolations from scientific principles cannot be counted on? What can we say about the universe, if our knowledge is always incomplete?

Nicolaus of Cusa, in his work *De Docta Ignorantia* (*On Learned Ignorance*), which inspired Johannes Kepler and made modern science possible, begins by setting his sights on what he saw as the most universal of universals, God, and then goes on to discuss the universe in the context of his insight on the Creator. The central concept of knowledge employed by Cusa, that of educated ignorance, informed by a coincidence of opposites, does not use small parts or small ideas to build up to great ones, but details the specific way that a precise *lack of knowledge* is itself an appropriate means to express new concepts. For example, Cusa states that God is that maximum to which nothing is opposed, including the minimum, and that He is the light which is not opposite of darkness.[47] These are contradictions, specific unspeakables, to lead the reader towards an incomprehensible concept, by making the incomprehensibility more specific.

Cusa communicates his throughts about the universe by speaking in the form of impossibilities arising from attempts at understanding which are below the level required for comprehension. He reasons that that which is less than truth cannot measure truth precisely. He applies this insight to astronomy. Cusa maintains that no planet can move on a circular path, because a perfect circle, embodying absolute perfection, cannot exist in the created world, and could not be a cause of motion.[48] Similarly, perfectly uniform motion is impossible: how could two motions be so equal, as not to be capable of still greater equality? Thus, circles and uniform motion were both rejected as true means of understanding the planets. What remained? *Nothing*, in the language Cusa sought to surpass.

His follower, Johannes Kepler, demonstrated the impossibility of understanding the planetary motions in terms of circles and uniform motion.[49] He instead applied physics to astronomy, providing an affirmative higher level of thought that resolved the impossibility of understanding astronomy geometrically, as brought forth by Cusa. Kepler's use of physics, of a physical principle whose application varied in every moment, shocked his contemporaries, laid an entirely new basis for astronomy, and opened the path to modern science.

A general conclusion can be drawn from this astronomical example. Contrary to Aristotle's view that opposites could not co-exist, or the logician's view that all derivable conclusions exist inherently in the original premises, Cusa maintained the primacy of the process of discovery itself, whereby contradictions drive the mind to hypothesize a new concept, not derivable from the past—a conclusion that *defies* the premises, rather than following from them. Cusa held that it was through this process, of knowing through *specific ignorance*, that one could come the closest to seeing God. Resolving paradoxes through developing new metaphors for understanding is more than a technique for arriving at physical truths: this process is the truest substance of nature.[50]

Every human being is born with the potential to apply this process of discovery: to exist in the efficient immortality of discovering principles and applying them for the betterment of society, where betterment is seen in increasing the capability of fellow human beings to participate in this most characteristically human of behaviors.

The creation of such a society, free from the oligarchism that currently threatens global thermonuclear warfare, is the most beautiful, the most human, and the most urgently pressing task facing mankind today.

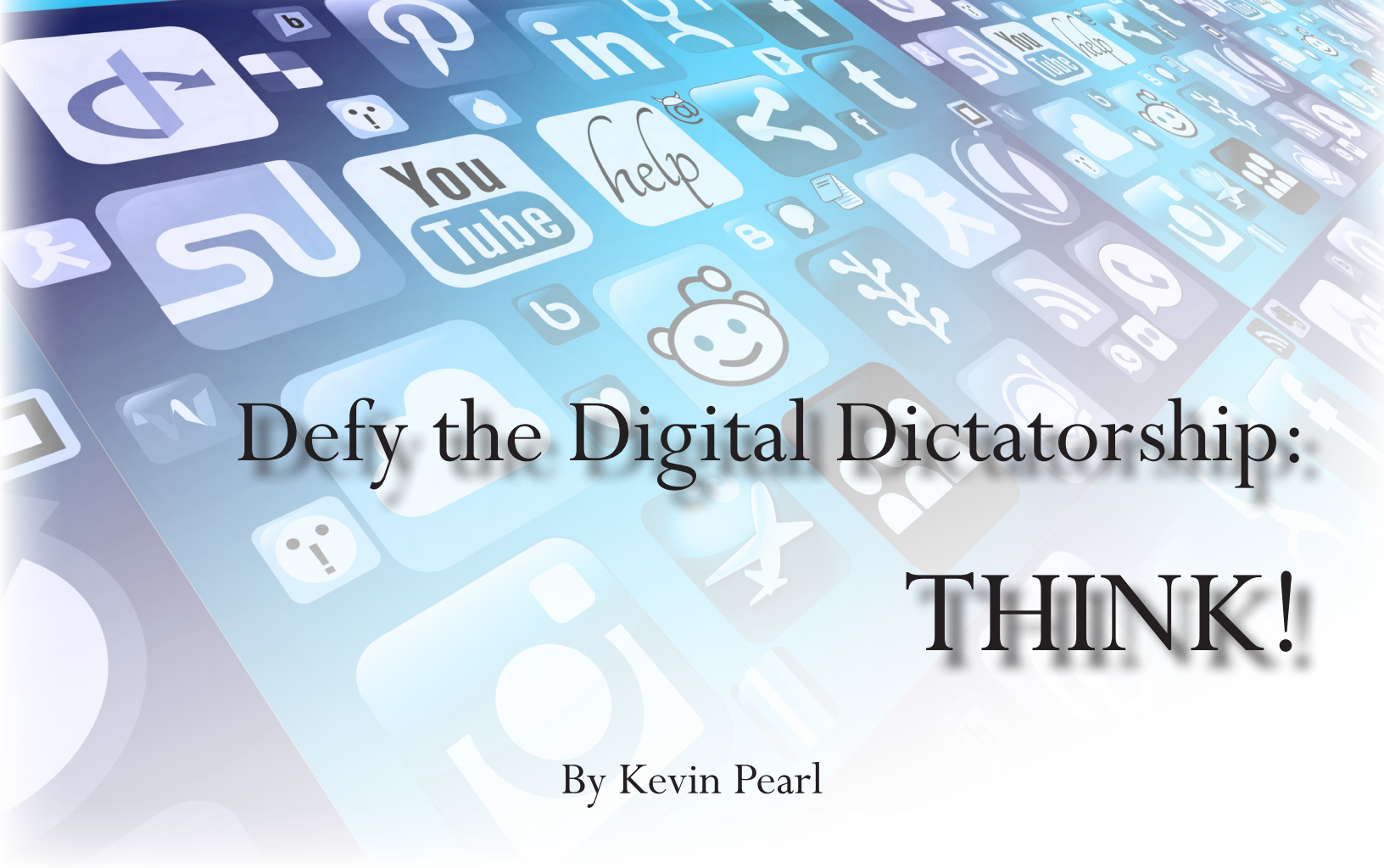
46 Vernadsky, "The Problem of Time in Contemporary Science" (unpublished translation).

47 Nicolaus of Cusa, *De Docta Ignorantia*, translation by Jasper Hopkins, Book I: https://jasper-hopkins.info/DI-I-12-2000.pdf

48 *De Docta Ignorantia*, Book II: https://jasper-hopkins.info/DI-II-12-2000.pdf

49 Kepler accomplished this first by developing what he called a "vicarious hypothesis" embodying the geometrical elements of circles and uniform motion, and then by showing the necessary failure of that "vicarious" model. In the same fashion as Nicolaus of Cusa, Kepler brought his readers to a point of rigorous failure, forcing them to join him in searching for *physical*, rather than geometrical principles.

50 See Jason Ross, *Metaphor: an Intermezzo.*



# Defy the Digital Dictatorship: THINK!

By Kevin Pearl

*The first point is, we must needs have in mind continually: The life of man is but a warfare.*

– Erasmus

You have been on a battlefield for most of your life, and you probably weren't aware of the ongoing war. The battlefield is your mind. You have probably felt at times that you are being manipulated. Nudged. It's not your imagination. In fact, it is something Lyndon LaRouche warned of over decades. More importantly, he also provided the tools to rise above it.

How did we get to a point that the U.S. and Western Europe are arming Nazis in Ukraine and censoring anyone who objects? How have we become numb to the deliberate genocide being committed in our names in Afghanistan and Yemen? Why has it become impossible to have a calm, thoughtful discussion when people disagree on politics?

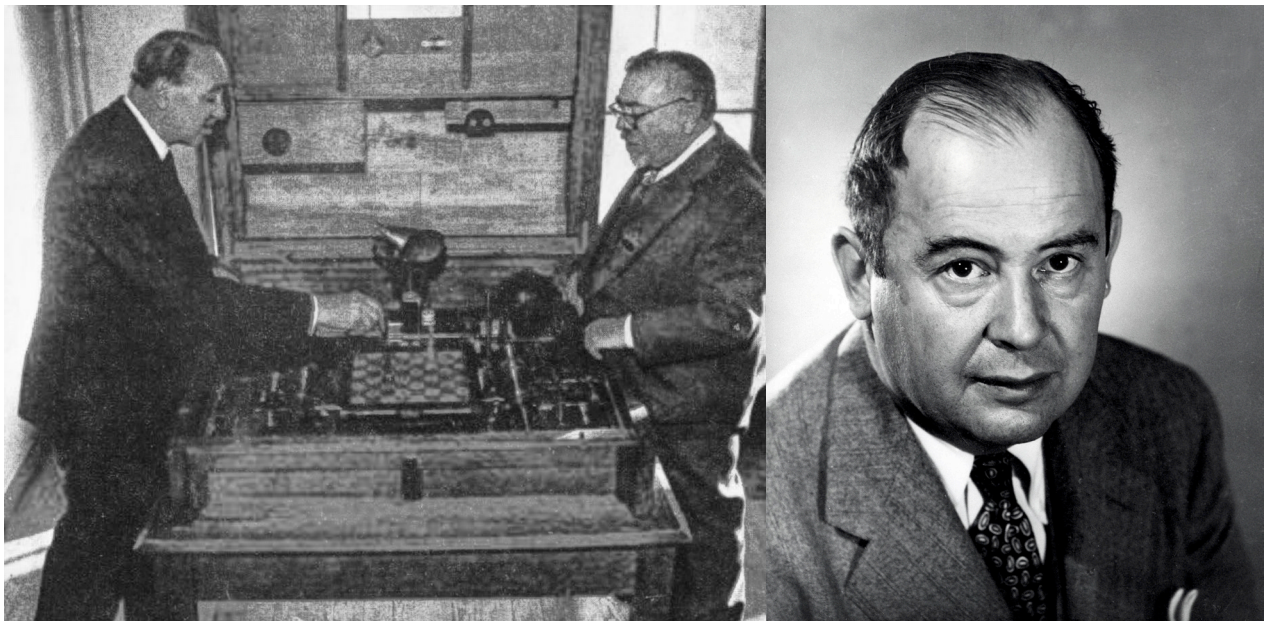
How have we reached the brink of thermonuclear WWIII, and yet there is no visible demand from within the USA to change course?

Is it now acceptable to have a "Ministry of Truth," a "Disinformation Governance Board" in the United States, where dissent = disinformation?

Censorship, manipulation, and brainwashing aren't new phenomena, but they all rely on the idea that people can be trained, like animals, or programmed like computers. But human beings are endowed with creative reason, allowing us to step outside such means of control. It was LaRouche' s reaction against the inhuman nature of cybernetics—the insane claim by John von Neuman and Norbert Wiener that the human mind is essentially identical to a highly developed computer—that impelled him toward making his most important, original discoveries. Cybernetics was in fact designed to hijack the extremely important work done on computers from Leibniz through Babbage, Vanevar Bush, and others, away from real benefit for mankind and into a potential mental prison for humanity.

Decades ago, Lyndon LaRouche called upon members of his movement to launch national ideology projects to study the strengths and weaknesses of different national cultures to enable people to escape the mental shackles that unconsciously imprison their minds. Think of this article as an invitation to join in reviving that project, as kind of a Psychological Warfare Inoculation Bureau.

Effectively, the assault upon you has been two pronged: Most obviously, it is to determine what you think, with emphasis on leading you to believe you have formed cer-



*In the middle is Norbert Wiener being shown an automaton that plays chess by Gonzalo Torres, the son of its inventor, Leonardo Torres; right: John von Neumann*

tain desired, predetermined opinions and conclusions on your own. More important is the assault upon your ability to think at all. In essence, the attempt is to reduce your mind to the level of a trainable animal or programmable computer. Think 140 characters of twitter, or 15 seconds of tiktok.

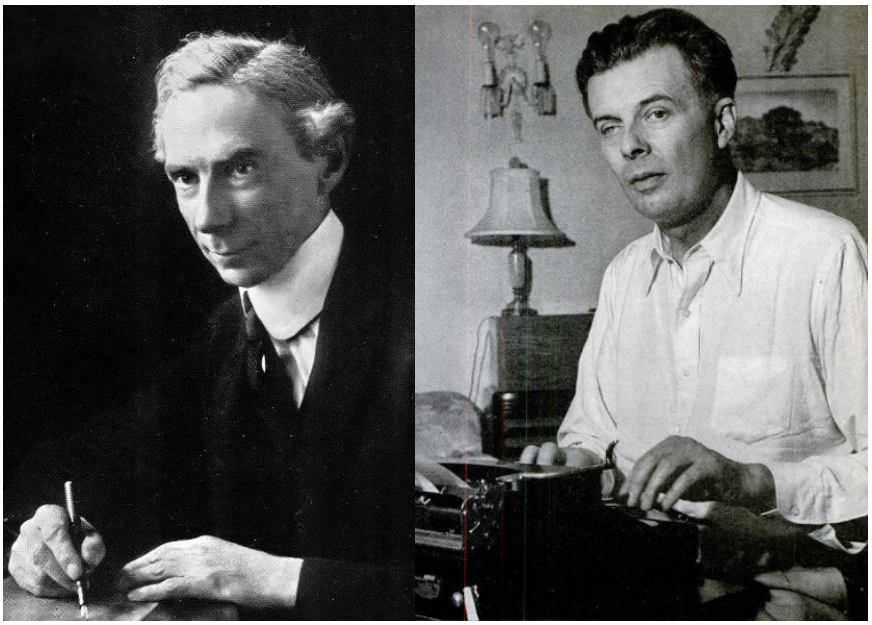
To take up the first part, look at the ceaseless propaganda around the conflict in Ukraine as one example. Every report in the west uses the identical formulation: Putin's "totally unjustified and unprovoked invasion of Ukraine." It reminds me of the formulation "political extremist Lyndon LaRouche" pervasively repeated in the media. Is it really possible that every supposedly independent journalist stumbled upon the exact same wording? Is it really Russian disinformation to raise the history of the conflict, from the U.S.-sponsored coup in 2014, including widely reported massacres of ethnic Russians by Ukrainian forces, like that at the Odessa Trade Union Building that year? Many more such incidents occurred from 2014 to 2022, while Western guarantees of the Minsk peace accords were effectively ignored.

Is it Putin propaganda to mention the role of Nazis in Ukraine? The western media universally claim that they don't exist, yet even a cursory search of coverage by those same outlets in prior years reveals countless reports about the Nazi leanings of Azov, Pravy Sektor, Aidar, C-14, and many others. There is open celebration of WW II Ukrainian Nazi collaborator Stepan Bandera, including truly terrifying torchlit parades. The Christchurch shooter, Brendon Tarrant, bragged that he had trained with Azov. His racist manifesto sported the Nazi Sonnenrad symbol featured on Azov uniforms, and was later translated into Ukrainian and widely circulated there. In 2018, the U.S. Congress banned any U.S. funding from going to Azov. On October 16, 2019, forty Members of Congress, all Democrats, wrote a letter to Secretary of State Mike Pompeo, detailing the Nazi character of these armed units in Ukraine, yet all of them who remain in the House voted on May 10, 2022 to arm those same groups.

These are not accidents. For decades the Military Industrial Complex has been quietly incorporating both traditional and social media into its arsenal. This history includes Operation Mockingbird, U.S. Army Lt. Col. Michael Aquino's "Mind War," NATO's Allied Command Transformation study "Cognitive Warfare," and the Rand Corporation's "Who's Story Wins?"[1] In any thinking society, citizens would be alarmed at having known liars from the intelligence community like John Brennan and James Clapper regularly featured as experts by news outlets, or former NSA director Army Lt. Gen. (Ret.) Keith Alexander running Amazon Web Services.

Further, the line between public and private sectors has been deliberately blurred in order to evade Constitutional restrictions. Edward Snowden notes that he was employed by Booz Allen Hamilton, rather than directly by the CIA or NSA, when he courageously exposed the U.S. government's mass surveillance program, run under Gen. Alexander's direction. The Office of Information Awareness under Bush/Cheney/Rumsfeld had a program called LifeLog to map out every individual's habits, spending, friends, movements, communications, likes and dislikes;

1 NBC recently bragged about their role in disinformation campaigns:
https://www.youtube.com/watch?v=BXLKUCLhZos



*Left: Bertrand Russel; right: Aldous Huxley*

in short a full log of your life, a total profile. It was run through the Defense Advanced Research Projects Agency (DARPA), and involved Peter Thiel's company Palantir, and a CIA front called In Q Tel. When it came under Congressional scrutiny for violating the Constitution, it was disbanded. The very same day, a company called Facebook was founded, doing exactly the same thing, voluntarily and under a private banner, with Peter Thiel and the head of In Q Tel on the board.[2]

## How Your Opinions are Imposed Upon You

> I think the subject which will be of most importance politically is mass psychology... Its importance has been enormously increased by the growth of modern methods of propaganda. Of these the most influential is what is called 'education.' Religion plays a part, though a diminishing one; the press, the cinema, and the radio play an increasing part... It may be hoped that in time anybody will be able to persuade anybody of anything if he can catch the patient young and is provided by the State with money and equipment... The subject will make great strides when it is taken up by scientists under a scientific dictatorship... The social psychologists of the future will have a number of classes of school children on whom they will try different methods of producing an unshakable conviction that snow is black. Various results will soon be arrived at. First, that the influence of home is obstructive. Second, that not much can be done unless indoctrination begins before the age of ten. Third, that verses set to music and repeatedly intoned are very effective. Fourth, that the opinion that snow is white must be held to show a morbid taste for eccentricity. But I anticipate. It is for future scientists to make these maxims precise and discover exactly how much it costs per head to make children believe that snow is black, and how much less it would cost to make them believe it is dark gray... *Although this science will be diligently studied, it will be rigidly confined to the governing class. The populace will not be allowed to know how its convictions were generated. The populace will in general be too busy earning a living or too lazy or just too world weary to care much about where and how they arrived at their convictions*. When the technique has been perfected, every government that has been in charge of education for a generation will be able to control its subjects securely without the need of armies or policemen. [emphasis added]
>
> – Bertrand Russell, *The Impact of Science on Society*, 1951

If you think *1984* and *Brave New World* were warnings, you've been bamboozled. They were blueprints for the type of mind control exercised over you today. The same Huxley networks that were instrumental to introducing LSD and the whole drug counterculture into the U.S. were also central to the inception of personal computing as a branch of the same operation. John Markoff's *What the Dormouse Said* is useful to gain insight into how this process was managed. The channeling of computer development from advanced scientific and engineering work into personal mind "enhancement" was surrounded by the same rhetoric of LSD and other hallucinogens as consciousness expanding. The intention was the same: to destroy the ability to think freely and creatively. To impose the "rules of the game" upon your mind.

In light of the CIA's two-decade-long LSD program, MKUltra (1953–1973), we should explore similar involvement in shaping the development of the PC.

> There will be, in the next generation or so, a pharmacological method of making people love their servitude, and producing dictatorship without tears, so to speak, producing a kind of painless concentration camp for entire societies, so that people will in fact have their liberties taken away from them, but will rather enjoy it, because they will be distracted from any desire to rebel by propaganda or brainwashing, or brainwashing en-

2 This was documented by *Zero Hedge* among others.

> hanced by pharmacological methods. And this seems to be the final revolution.
>
> – Aldous Huxley to Tavistock Group, California Medical School, 1961

Think of Huxley and "Soma" from his Brave New World next time you pass your local pot dispensary.

Think of the above quotes by Russell and Huxley when you consider the role of [anti] social media today. Studies conducted by the Tavistock Institute, the Congress for Cultural Freedom, the Frankfurt School, the Rockefeller Foundation, and DARPA, among others, have extensively researched how to manipulate both individuals and entire societies. The deliberate creation of an echo chamber where all of your media feeds only contain things designed to amplify your prejudices, and to shield you from anything that challenges pre-existing beliefs, "the algorithm," was intended to ensure the polarization of the population, creating sets of opposite tribes, only able to scream louder and louder at each other, but totally unable to examine the axioms underlying the selected trigger issues. This was intended to replace any form of deliberation in modern society. The format of media, the instagram scroll or Facebook feed, and the limitations on size are deliberate attacks on your concentration span. Despite the raising of those limits, the average tweet is still only 28 characters, and the average TikTok only 15.6 seconds.

These methods of manipulation were incorporated into social media and video games from the very beginning. These anti-human forms of control are at the core of Facebook, Twitter, TikTok, Twitch, Instagram, all of them.

The peer pressure, including from bots, the rewards/likes, the notifications to induce addictions are all part of this process. The videos *The Creepy Line*, and *Social Dilemma* illustrate this clearly, though their conclusions are objectionable. Cass Sunstein's *Nudge* is a fuller, more academic promotion of these techniques. Lt. Col. David Grossman's work on the murder-training nature of video games is worth reading.

On a much higher level, I recommend earlier works by the LaRouche movement that are uniquely helpful to understanding this matter.[3]

Space considerations don't allow exploration here of another important avenue of investigation: the role of big finance. Renee Sigerson's recent piece in *Executive Intelligence Review* opens the discussion with crucial insights.[4]

While Peter Thiel and the networks of the late George Shultz at Stanford University are central, it would be important to explore how the decisions were made to award the massive government contracts to Gates and Bloomberg that turned them into billionaires and tech titans. Similarly, though less openly, for Zuckerberg and others.

## Conclusion

On May 14, 2022, an 18-year-old, Payton Gendron, walked into a grocery store in Buffalo, NY, and shot 13 people, killing 10, in a racist attack. His manifesto, plagiarized from that of the mass killer in Christchurch, featured the same Nazi Sonnenrad symbol and espoused the same racist ideology as the Nazis in Ukraine that are now recipients of billions of dollars in advanced Western military equipment. Gendron, like his model, Brenton Tarrant, chose to livestream the carnage on social media.

The media, on the controlled left and right alike, now focus the discussion on guns, rather than on the Nazi ideology that they choose to cover up in Ukraine, or on how young people are turned into mass killers. What was the role of social media in shaping the warped outlook of this young man? the role of violent video games?

Why have you allowed the discussion to be shaped the way it has been?

More importantly, where is the discussion of how to change our culture?

The "rules of the game," the same as the "rules-based order," are fictions created to force individuals and societies to respond predictably, as if they were animals or computers, and thus be easily manipulated by an unseen elite into predetermined results. Free trade and systems analysis are actually just white collar vehicles of theft and genocide. Blue vs. Red elections are designed to keep a permanent bureaucracy in power as a form of dictatorship. The concocted "responsibility to protect" policy of foreign military intervention, and feigned cries for human rights, are generally just covers for regime change and war crimes.

We must begin to defy the rigged rules of the game, as Bach and Beethoven did in music, as Dante and Shakespeare did in language, and Kepler and Einstein did in science. We, as human beings, can uniquely recreate and re-experience their discoveries, and even surpass them. A culture dedicated to developing thermonuclear fusion power and terraforming Mars will inspire young people to emulate scientists and engineers rather than "influencers" or mass killers.

Join us in launching this project, and telling the full story about today's Digital Dictatorship.

3 Of note are LaRouche's articles "Star Wars and Littleton," 1999, and "'Extreme Events!'" 2007.

4 "A Truly Evil Golem: Billionaire Peter Thiel and his Palantir" by Renee Sigerson, *Executive Intelligence Review* January 21, 2022 https://larouchepub.com/other/2022/4903-a_truly_evil_golem_billionaire.html

# Original Translation:

# Letter to Niccolò da Bologna

## By Nicholas Cusanus

June 11, 1463

### Background to the Letter

Together with *Compendium* and *De apice theoriae*, this work comprises the very last writings that Cusa completed before his death on August 11, 1464. After his near death on June 15, 1461, Cusa knew he was getting physically weaker, even as his health allowed him to travel in the summer of 1463, and these three works can be seen as three different approaches to summarizing the intention and vision for mankind that he was incessantly working to realize throughout his life, especially from 1433 on.



*Cardinal Nicholas Cusanus, (1401 – 1464)*

On June 5, 1463, Cusa clothed the young, unknown student, Niccolò da Bologna, also known as Niccoló Albergati, in the monastic habit of the renowned monastery of Montoliveto, *Of the Mount of Olives*, which Pope Pius II had visited and praised in 1462. Cusa arrived at the monastery on June 3, 1463, and left again a week later, arriving in Montepulciano at the latest on June 11, in time to write the present letter. Although, in the accompanying sermon and in this letter, it becomes clear that there is a warm relationship between the young man and Cusa, the nature of this relation has yet to be found. Cusa historian Gerda Von Bredow assumes a familiar relation between the young monk and Cardinal Niccoló Albergati with whom Cusa had been working closely for many years.

The far greater part of the known works of Cusa has come down to us in the major collections compiled several times from the late 15th century and on. That is not the case with this letter. It was found in 1949 by a scholar of Renaissance humanism, Paul O. Kristeller, in the public library of Siena (Biblioteca Comunale) as he was systematically searching through the Italian libraries for his research. Together with the letter was a description of the sermon that Cusa gave in connection with the clothing of Niccolò da Bologna. This sermon is found in English in Jasper Hopkins' translation (Sermon CCXCIII). In reading this description we find out why we do not hear about this pious monk again; he died in the monastery a few months after his ceremony.

The letter itself was published together with a German translation in 1955 by von Bredow. The same translation was later republished in an abridged version in 1957. It was re-translated by Harald Schwaetzer and Kirstin Zeyer and published in 2006. In the meantime a Japanese translation was published in 2001, but the letter has never been published in English, although Dr. Thomas Izbicki has done a sketchy translation from the German—which he was friendly enough to share—excerpted by the late Morimichi Watanabe, the long-time president of the American Cusanus Society, in his *Nicholas of Cusa – A Companion to his Life and his Times*, published in 2011, shortly before his death in 2012.

Josef Koch, one of the great Cusa scholars and the teacher of von Bredow, called this letter "*das religiöse Tes-*

*tament*," "the religious last will" of Cusa. We will not go further into the content of the letter or the sermon, since it makes far more sense to read the two documents oneself.

## A Few Technical Details

We have copied all the bible-references from von Bredow's 1955 edition into the critical apparatus. All references from Bredow are marked with an asterisk (*). Otherwise the original latin text from which this was translated can be found here: http://www.cusanus-portal.de/content/werke.php?id=EpistNicBonon_1. A list of the resources used is found at the end.

## Finishing Cusa's Project

Before ending this short introduction, it is important to emphasize one aspect of the core of Cusa's spirit which will never cease to fascinate us: His firm belief that every human being has the ability to form the most perfect union with Christ, who has the most perfect union with God. That is, every human being has the potential to reflect in himself the most fundamental nature of this universe. There is nothing in it, that he cannot come to know, and know in such a way that he can create it. That is the value of every human being. And any society, so he believes, should be organized to bring forth that potential. There could be no better time than now to hold up this mirror for oneself and ask: "Is my society organized in such a way? Am I working to accomplish that?" With the translation of this letter, we hope that we have brought the world a small step closer to Cusa's goal.

Have fun reading!

*Originally finished in October, 2018*

# Letter to Niccolò da Bologna

Letter from the most venerable father in Christ, Lord Nicholas, Cardinal at St. Peter in Chains, to the pious Niccolò, novice *Of the Mount of Olives*, that he might sufficiently recognize himself.

1. It was pleasing to God and the religious brothers that I clothed you, Niccolò da Bologna, a zealous youth, on the holy day of the most blessed Trinity at the renowned monastery *Of the Mount of Olives* in the monastic habit of that place, and that I furthermore held a sermon for the increase of your fervor. I have now written down this sermon at the insistence of some devout men, that you may take it with you. And in order for you to taste a more complete doctrine than the one I spoke, I add in this letter something about the primary subject with which the pious engage themselves: the praises of God.

2. First, it is necessary that you diligently consider the following: Since nothing of that which can be comprehended is without existence, and since the very things that are, cannot have existence from themselves—how, indeed, would the non-existing make itself exist?—it is necessary that an eternal creator of everything exists before everything else, from whom all things have their existence.

3. But nothing moved the Creator to create this universe, the most beautiful of all works, besides His wish to extend His praise and glory. He is thus Himself the purpose of creation and also its origin. And since any unrecognized king is without praise and glory, the Creator wished to become recognized in order to be able to extend His glory. Thus He, who wished to become recognized, created the intellectual nature capable of cognition.

4. And as He is the purpose of intellectual nature, likewise intellectual nature is the purpose of all perceptible, lower natures. Likewise, everything visible, the inorganic as well as the organic, is related to the sensing nature and the sensing nature to mankind by their purpose. So, in a human being the animal life is intermingled with the intellectual, of which the latter alone can recognize glory and praiseworthiness, without which everything perceptible would have no purpose.

5. Thus, the Creator binds all perceptible things, heaven, earth, and all that is in them, together with the rational nature by a loving bond, that they may serve mankind, in whom is the living image of God. When a human being recognizes itself as a living image of its creator, it contemplates its creator by looking back at itself, being led to the original by way of the likeness.

6. Observe, my son, the living, intellectual image existing in you of God, which would be no living, intellectual image, if this image wouldn't recognize itself as being an image. Thus, the intellect belongs to the essence of the




*The Abbey of Monte Oliveto, a Benedictine monastery in the Tuscany region of Italy, where Niccolò da Bologna was at the time of Cusanus' writing — here pictured in 2010*

living image of God. Whence, between this image of God, without which no created thing could exist, and any other likeness of Him, stands knowledge of being in the likeness of God, which no other likeness than this image has because they all lack intellectual life.

7. Further, every created being rests in what it has; no kind of being desires greater likeness to the Creator than what it has received, since it is what it is through that likeness, and couldn't exist without it. But our intellectual nature, since it understands itself to be the living image of God, has the power to become ever more manifest and more in the shape of the Creator. Although, since it is an image, it can never become the original or the Creator itself.

8. Thus, if a painter paints his own visible image, it remains as it was made. But if such a painter existed, who could make an intellectual and invisible image of his art of painting the intellect, that image of the art, if it was a perfect image of the intellect and life of this art, could make itself more manifest and more similar by shaping itself in the likeness of its creator.

9. But just as our intellectual nature can make itself more godlike by shaping itself after the original, likewise it can become more malformed by disfiguration. The more the living image approaches the divine life, the more lively and happy it becomes; but the more it removes itself from divine life and partakes in the brutish, the more it will be like death and destruction.

10. But since, by nature, knowledge about God's praiseworthiness is the beginning of our intellect, the partaking in praise of God is the substance of it. So, every truth about the intellect is derivable from the praiseworthiness of God. Thus, we prefer what we know to be praiseworthy, and disparage what is opposed to the praiseworthy. By nature, therefore, we give praise to God, in eternity praiseworthy and glorious. Thus, the more we devote ourselves to be like the praiseworthy, the more we praise God, who is Himself the reason for our praiseworthiness, and the more we approach His shape.

11. But we praise God because He is good, because He is compassionate and never shows hate for any being, He gives everything and sustains everything, He is just and merciful and so on with all praiseworthy virtues. And thus, when we care for the immortal virtues, we care for God Who is love and virtue, we model ourselves after Him, and through love, we connect ourselves to Him, who is charity. And the greater our love is, the greater our likeness to the infinite love of God, the greater is our unity with Him and the more firmly we turn towards the unconditional, eternal love.

12. Although all things created subsist through love, nevertheless, only when intellectual nature loves God, who is love, the love will recognize God Himself, and taste His sweetness, and that is eternal life. And just as everything has come into being by love, that is God, likewise it is sustained by love and thus returns to God. But if the intellect is ignorant and lacks happiness and love, it does not live. And since it is ignorant if it lacks knowledge about love, therefore, if it wishes to live in eternal happiness, that cannot be without love, the intellect must come to recognize love, which it can only recognize through the act of love.

13. Indeed, this love, without which we cannot be happy, is natural to us. For the living image of the intellect is only that which it is because of God, who is love. The image is of this love, upon which the existence of the intellect depends entirely. Of course the image of perfect and infinite love is inclined to love its Creator, who is its foundation and substance.

14. Therefore, every rational spirit, who falls from the love of God, Who is its truth and origin, must tumble into eternal death. Just as if a human being was deprived of

its intellect, it would necessarily fall into brutishness, lose its self-awareness, and its reason would die. It would have been better for such a human being never to have been, than to be so miserable.

15. Therefore, my son, turn your thoughts to those things and hold on firmly to the belief that you are a living hymn and a vessel created for the praise of God, and turn yourself into an intellectual lyre, that, in and of itself, plays the melody of God's praise, and to this end let your monastic order gain a footing and be impressed in you by God, so that you may sing His praise more devoutly, rejecting the temptations of the world.

16. And embrace everything you are told to sing and do by your leaders and directors with a cheerful and loving spirit. And when you carry out the orders, only praise yourself inasmuch as you serve as a divine, harmonic instrument, by which the Creator, likewise praised, since He is moving you, is delighted. Insofar as you do with obedience in this manner, what you can, do not hesitate to count yourself as God's chosen and pleasing psaltery, for God does not demand more of you than your willful obedience. I wanted to start by briefly clarifying those things, now I will add the following.

17. You remember, my son, how you did not give in, even as I—from the etymology of the name of the order—placed the difficulties of the mission you requested before your eyes. To the contrary you declared that after a prolonged consideration you had been strengthened in your holy intentions, that you would rather be decapitated than not be a monk. And, reassured that the divine compassion, that had brought you to this, would also grant you further progress, I clothed you in your new habit, after you had lain down your old robe, so that those acts might be a symbol of you laying down the old, earthly Adam, on whose occasion you stepped into the world that "lieth in wickednesse" and instead assumed the new, heavenly Adam, who granted you access to another world, eternal and blessed.

18. You know very well, that there is in us a sensuous and visible animal nature, and then another intellectual invisible nature, and that the latter is the spiritual noble nature, by which we are distinguished from the animals. This is the living, invisible image of the invisible Creator. That image can imitate God. And just as the invisible God has created everything that subsists in nature from His word, art and concept, only known to Him, so, the intellect is expressed through its art and word i.e. all concepts that art has brought forth through the imitation of nature, such as for example monuments, paintings, textiles, writings and similar works of the intellect attest.

19. But the work of God does not presuppose anything existing before it. For since nothing can create itself, if God could only create something from something else, that something, from which He would create everything, would exist through some other being, mightier than God. This reason cannot grasp, since nothing mightier than God can be conceptualized. For He is the almighty for whom nothing is lacking.

20. But the intellect presupposes the work of God. Every concept it has, is based on the imitation of this. It thus introduces the figure of art into some of God's work, like the figure of the cross into wood or the figure of a statue into bronze. And as an image of the rose—the work of the intellect—is to the real rose—the work of God—so is our intellectual power to the divine intellectual power. And as the image of the rose is to the real rose, so is the real rose to the living intellect.

21. And even though the real rose is real, its reality is not living in it, since it does not recognize it. Only intellectual nature is capable of recognizing reality. Thus, the reality of the rose is in the intellect that recognizes it, of which the rose is only an image. And likewise, the reality of the created intellect is not in the created intellect, but in the non-created intellect, which is unconditional reality itself, the Word, *logos*, and the most exact reason for everything.

22. For all things are real in their eternal reason to such an extent, that they cannot be more real. So, we also seek the truth of the researched subject in its reason. Now, therefore, the visible rose is just as far from intellectual nature, as the image of the rose is from the nature of the rose, likewise, as the created intellect is from God's Word, and the similitude from reality. Thus, the Word of God generates being while our intellect generates imitation.

23. But since the intellect according to its power brings forth the different arts by imitating nature, no matter how

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*Left: the Cusanusstift, or Cusanus' hospital in Bernkastel-Kues, Germany. Cusanus oversaw the building of this hospital to care for the poor and elderly, which is still in operation to this day. Right: the courtyard in the middle of the hospital. Cusanus chose to have each of the window frames constructed with a different design so as to reflect his idea of a harmony through diversity, or the "coincidence of opposites."*

much art it brings forth, surely it will never bring forth so much, that it doesn't wish to reach for more. The intellect, thus, can never reach divine art through itself and become like the master. However, without getting to divine art, it cannot reach what it wishes to apprehend. The intellect doubts in no way that if it saw the art of creation in itself, that art would grant it immortality, since that art has given everything existence. So, this is the art without which the intellect cannot enter into the joy of God and see God and His Word in their glory.

24. Thus God gave the human being, whom He created, the suitable means to gain the vision of His glory, but the intellect wished to be like God by knowing and understanding. God, on the other hand, chose obedience as the path to glory, by which I mean the obedience that is called innocence, apart from which nothing is more satisfying and more beautiful to God. Therefore innocence naturally draws all love and support to it, and makes parents anxious to persistently care about their children, a care they have by nature from God. Likewise, God received the innocent humans into His care and placed them in Paradise, so that He could nourish them and at length lead them to the vision of His glory.

25. But the human being, abusing its inherent freedom of choice, given to it, so that it might freely be obedient and faithful towards God by choice and without force or necessity, wished to direct itself down the road of knowledge. It wished not to believe, but to know, and by submitting to its own council, it shook off its obedience and betrayed its innocence. Thus returned to earth, from which it came, and from which the innocent human being had been led by God to the Garden of Delights, the human found itself deceived. For by progressing in knowledge it had hoped to arrive at the vision of God's glory, that would grant it immortality, but instead it had fallen back into death and dust.

26. Now, my son, you can gradually see how we, through presumptions, have lost our way towards eternal life in the old human being, who has its origin in Adam. That Adam, who wouldn't give God praise and glory by being carried along the path of obedience and innocence, to the vision of glory, being thankful to God, but wanted to give itself the praise that it presumed to have earned through the power of its own intellect. This is the sin which rules in the world today. For all the children of Adam presume to understand and have knowledge, haughty and inflated, with which they boast to be learned and knowing.

27. So, they place their own praise above the glory of God, as if the intellect wasn't given to them by God to His glory. But they prefer the good life in the second world, and everywhere they use His whole intellect to such an extent like a slave, by which they acquire goods, praise, and glory, that we experience it in the arts, the liberal as well as the mechanical, which stem from the intellect. That is, they follow the old human being, where the higher, intellectual nature, that should be heavenly and invisible, serves the beastly, visible, animal nature by letting the good life in the visible world define the aim of intellectual nature.

28. But the human being that lives as a follower of the heavenly Adam, i.e. Christ, does the opposite. It wishes that the flesh serves the spiritual intellect and that the aim of the human being should be to understand truth, which is God, and keep it in the heart, not feel it like a beast. Therefore it turns to that which is of intellectual nature, that is justice, peace, truth and similar eternal virtues, but in particular humility and obedience. In this life, it presumes nothing of itself, but acknowledges explicitly its ignorance: that it knows nothing—let it be understood with undeniable certainty and precision—except the one,

undeniable thing; that knowledge is the gift of God, for which reason it should believe in God and repose in His gift.

29. Now, since we have nothing from ourselves and are nothing in ourselves—for we have nothing but for God—we can only have our burning wish for immortality, which only God possesses, from God, and only He can give immortality, and wishes only to give it to those who pray with a fully active faith. Now, those who have a fully active faith will certainly not doubt that all the works of God are justified in Him. Therefore, just as we have nothing not given to us by God, given for one purpose; that we may acquire immortality, so it befits that we take nothing, but give everything for the sake of immortality.

30. God is just and He is true. Thus, if someone suffers for truth and justice, he suffers for God. He, who wishes to die rather than offend justice, strongly praises justice, which is God. If someone therefore loses his soul and life in order not to offend justice, which is God, would not justice, being just and omnipotent, not permit that he had lost his life, since God is the most just rewarder?

31. Thus, if someone suffers death, which is without end, for God, will not justice, which is God, reward him in return, with immortal and eternal life? And with a kind of life that understands that it lives, not one that must be without the sweetness of intellectual life, as is the case for the mineral life of stones and metals, the vegetal life of herbs and trees or the animal life of dogs and birds, but one which is intellectual, like the life of angels. For what kind of reward would it be, if he couldn't understand it, but was like a stone or an ass crowned with gold?

32. From this, my son, you understand the Gospel and the epistles, which tell that he who ascends unto God must believe that God is and that He rewards in such a way, that whatever is given to Him or in His name, will be returned hundredfold in the eternal life. In return to sensuous things will be given intellectual things and in return to temporal, eternal. Such is the doctrine of our lord and master Christ: "as ye would that men should do to you, do ye also to them likewise" for the sake of God. Be compassionate to others and you shall meet compassion. Give charity, and it shall be given to you. For He is the rewarder of all good things, and He will generously reward anyone who does some benefaction that pleases Him.

33. But make sure, my son, to most carefully consider the passage: "For as in Adam all die, even so in Christ shall all be made alive." Now, he who does not acknowledge Jesus, son of the true Virgin Mary, to be God's only begotten son, and who does not receive Him as such in the most firm belief, does not have the fully active faith that can bring the mortal human being to immortality, which only belongs to the nature of God. For no one is blessed until they, together with God, possess the immortality in which only God dwells.

34. Thus it is necessary that human nature, in which all humans partake, in some fundamental way is united in substance with the divine immortal nature, in such a union, that cannot be more close, through which union all blessed human beings are in their own nature likewise united with the divine. Otherwise, if this union is not possible, no one can obtain immortality by nature, since, in that case, our nature would not find union with God in any human being. And just as no human can live a human life, if it is not connected to human man i.e. Adam, even so no human can live a divine life, if it is not united with divine man i.e. Jesus. But if a man "alone most high" does not exist, in which human life is united with divine life, how will this union be possible in someone inferior to Him?

35. Thus it is necessary, that this man shall be of human nature, and thereby a son of man, and likewise of divine nature, and thereby the Son of God, and that by nature, so that all who wish to obtain divine life, being united to Him through the human nature common to Him and everyone, in Him are able to attain to the immortality, that any nature common to Him comprehends.

36. Further, it is necessary that this "most high" man, is entirely without sin, original as well as personal, since sin separates the human being from God. Since in Him, human nature has never been separate from divine nature, it was never subject to sin. Thus He was not conceived in sin like everyone else, He also isn't a product of a man's pleasure, never "was guile found in His mouth," nor arrogance, but He is God's beloved, most obedient Son, even until the most disgraceful death upon the cross.

37. And this is Christ, the mediator between God and the human being, who is "the way, the truth and the life." If we did not believe Him to be the Son of God, how would we follow Him and His doctrine as the true doctrine of God, since any human being who is not God, is capable of lying? And thus we would not attain to His immortality, since we wouldn't have the firmness of faith. Therefore, we must believe that He is the Son of God with a certitude that cannot be greater, and that is our salvation.

38. For it will not be hard for us to suffer everything for God, when we are certain of the glad tidings of our master through the revelations, which tell us, that in the death for God we arrive at eternal life, that in the loss of the possessions of this world we arrive at the kingdom of heaven, that in the sorrows of the world we arrive at eternal joy, in every disgrace at happiness and in every loss at gain.

39. He who believes that Christ, the Son of God,

preached the Gospel, will never in eternity grieve for misfortune and would not sin for the whole world, lest he be separated from God. He knows that this world "lieth in wickednesse" and abhors entirely what is in it. He does not live if Christ lives not in Him, and he considers it an achievement to die for the sake of staying inseparable with Christ.

40. Consider, my son, how all mortal sins have their origin in not believing in Christ, the Son of God, with the most firm belief which leads to neither believing in nor obeying His Gospel with the most certain belief So, nothing is more precious or has more power than the Christian faith, but since only a few have perfected it to the degree that its nobility requires, there are many sinners. But you, my son, use all your powers in keeping this faith alive and continually pray for its increase through Christ. Then you will soon feel that Christ has rooted in your spirit, so that you wish for nothing else than to hold Him entirely.

41. For the time being, my son, let the belief suffice you, that Christ, the Son of God, has delivered the doctrine of the Gospel to us. Most certainly, nothing outside of this doctrine is comparable to it, nor is there any need for you to search for another reason for this doctrine, since no greater reason can be given than that which comes from the Word, the Son of God, which is also called *logos* or reason. He is the true reason for the Gospel, since He is the Word and the reason of God.

**Thus, if a painter paints his own visible image, it remains as it was made. But if such a painter existed, who could make an intellectual and invisible image of his art of painting the intellect, that image of the art, if it was a perfect image of the intellect and life of this art, could make itself more manifest and more similar by shaping itself in the likeness of its creator.**

42. You will easily understand that no stronger, all-inclusive reason can be thought of than this when doubt comes to you about the manner in which Jesus can be born of a virgin; how one and the same God can be Father, Son and Holy Spirit when the Father is not the Son or the Holy Spirit, the Son not the Father or the Holy Spirit and the Holy Spirit not the Father or the Son; and how the Son of God but not the Father or the Holy Spirit has been made flesh by the Father. For to all these kinds of questions you can answer that it is certain, that these things hold true, since the Gospel declares them to be so.

43. Yet one only searches for the manner, if one wants to know, if something is possible. But "with God nothing shall be impossible," therefore any question about manner ceases. In God, the manner of being is the will which the omnipotence executes. That the human being cannot write unless it structures things in a certain way necessary for this action, is due to the fact that a lot of things are impossible for it. But it often wishes much that it cannot do, and therefore, it becomes limited to the specific manner in which a thing must be done. With God things are different. He acts freely and almighty and is not bound to a certain manner. Thus, any human being who believes that God could not create something unless it understands the manner in which this is done, feels itself more than it feels God, and is entirely in error.

44. Your monastic order is called *Of the Mount of Olives* and is depicted by you as a triune mountain. Thus, there is threeness in the oneness of the mountain and oneness in its threeness. But there is a difference between the threeness of the mountain and the threeness of divinity, for the divine threeness is before every occurrence and magnitude, continuous or discrete. Therefore the Father is not in one place, the Son in another and the Holy Spirit in a third, since their threeness is before place and magnitude. But since mountains exist after magnitude and place, they cannot exist without distinct magnitudes, continuous and discrete, as well as distinct placements. But essence, without which nothing is, is before magnitude and place. So, if I consider closely the essence of this triune mountain with the intellect, I will wonder about nothing in respect to divine and triune essence.

45. If I thus contemplate love, I will find in it the loving love, the lovely love and the love that is loving in both. If I now contemplate the essence of the triune and loving God, what, then, hinders my finding the loving love to be the Father, the lovely love to be the Son and the loving in both to be the Holy Spirit? Doesn't it appear to us, that the loving love begets the lovely love, just like the fatherly love begets the loveliness of the son, from which the bond of love proceeds from both?

46. What wonder is it, that the loving Father wishes to be engaged with the human nature of His lovely Son through the Holy Spirit, Which is the bond of love between both, since He wishes to call back to His love this lost and erroneous nature? This could not happen more

perfectly than by Him being connected to His loving son through the Holy Spirit in one union.

47. But all of this, thought-out by me or some more gifted person—even if it in this expression might seem to human beings to have a certain likeness to God—adds nothing to the authority of the Gospel, which is incomparably preferred to anything that can be said or read. Therefore, my son, turn all your attention to His lecture. He, who has communicated to us the Gospel, that we may read it, has undoubtedly revealed Himself therein to be the living Word of God and will over time nourish your incisive and zealous soul with wonderful sweetness, and make it fruitful.

48. And in what way Christ passes immortality to us we understand from the Lord's Supper. For this consecration is the consecration of our bodily union with Christ, the Son of God. First observe, my son, how we walk through a world of similitudes and riddles, since the spirit of truth is not of this world and cannot be grasped through it in any other way than through parables in which it is torn apart beyond all recognition into symbols that we can discern.

49. You doubt not, that Wisdom—by which everything is ordained, from God as well as from the human being—is manifold and almighty. Wisdom is the artist of everything, so that things both exist and exist well. Therefore, if someone is a human being, it is thus by Wisdom, and if someone is knowing, it is thus by Wisdom, and if someone knows an art, for instance the art of weaving, that person has it from Wisdom.

50. Let a weaver wish to pass the art of weaving on to a layman. Must the layman not first believe with certainty, that the master is knowing and able to teach the art? The layman comes to this belief, subdues himself to the directions of the master and obeys readily with an affectionate will. And at length out of the pupil arises a master, and by the art that was shared with him, he lives better. Thus the weaver can teach the art more easily to a docile and diligent pupil, receiving him into the community of his art.

51. But what now if the artist did not partake in Wisdom like the weaver, the carpenter or the teacher, but partook in its omnipotence with which he could make being out of nothing, life out of non-life and eternity out of the temporal? Without a doubt unconditional and eternal Wisdom "by whom also He made the worlds," would reside in this human being, both bodily, actually and substantially. Would not this artist be unique and most perfect?

52. If, now, he wished to pass his art of turning the temporal into perpetuity, the mortal into immortality, sorrow into joy, and of acquiring everything desirable, on to a human being, and to receive it into the community of his art, that the human being may become blessed and be fully alive, it would be completely necessary, that that human being would believe that this master would hold this art of omnipotence, and that he could teach it to the well-disposed pupil. Furthermore, the person would have to come to this belief with a desire that could not be greater, submit to the master and obey and fulfill all of his commands even unto death. Had he such confidence in the almighty artist the person would not be deceived. Hence, at length, the human being would acquire this art common to its master and in the acquired art it would possess immortality and eternal joy together with and by its master.

53. My son, Christ is this master who was awaited by all the wise and the prophets, and who, that it might be known that He is the only savior, let His arrival and the manner of His arrival be announced by the prophets and the wise. He walked through the world unconcealed, and through death He arrived at the resurrection of eternal life, as to show, by His own life, the tutorship by which mortal men can be made immortal. He gave many demonstrations and by word and example He taught everyone that the way of life, which was unknown to all, was known to Him, and showed that this way is complete obedience to God unto death—even the most disgraceful death upon the cross—by which one enters into eternal life.

54. Nothing, my son, is difficult for the believer. No one believing in Christ was ever deceived, and no mortal can ever be deceived, if he follows Christ. He will lose nothing following the mild and in the heart humble master, whom he sees is "the prince of the kings of the earth," praiseworthy and glorious to all times.

55. And now, my son, that you may strengthen your faith, turn to the Lord's Supper. Is not the substance of the bread, which is non-living, turned into the body of the animal that eats it, and does not the life of this animal make the bread part of its community of life in such a way, that it lives with that life, for instance as dog life in a dog, horse life in a horse and human life in a human being—for what else is this human life than animal life and intellectual life together?—and in Christ as human life and in equal degree as divine life? And all this is made thus by the rule of Wisdom.

56. Now, what if unconditional Wisdom itself, avoiding the way of nature, with the Word ordered that the bread should be thus turned into a part of Wisdom's community of life, since Wisdom is not bound to the order that it has created itself? (In any case, everything will obey almighty Wisdom, both that which is and that which is not.) Thus the word of almighty Wisdom willfully turned the bread

into its body, and did it by speaking. For it created truth when, having received the bread, it said "this is my body." Now, if the substance of a bread, even as it was non-life, by the way of the Word, went over to the community of immortality, how can there be any doubt, that the living substance of a human being with its intellectual life can be transferred to the community of immortality by the word of Christ?

57. Thus, the Lord's Supper is an example of the complete Christian faith, which more than anything otherwise thinkable strengthens the believer and nourishes him. Knowing that Christ has said "Father, I will that they also, whom thou hast given me, be with me where I am;" the believer will also be one in Him, as He is one in the Father. This is the almighty will against which no one can resist. "But as many as received Him, to them He gave power to become the children of God." And He wills them to be as much as they can, and what He wills necessarily is.

58. Consider also, my son, how the change in the Lord's Supper cannot be felt by the senses, but only takes place in substance, which is before all occurrence. Thus, in this change, the body of Christ is not of a certain character or amount, in a certain place, dividable or other things that follow from its substance. Thus it must not be multiplied to be many places at once or increased for the altar bread to be big, but His body is in many places in a non-spatial way, and without increase or any magnitude, continuous or discrete, it is in big and many altar breads, and no one but the believer sees it. For the unfaithful and the beasts cannot reach it, even if they eat the tangible bread.

59. But the Christian receives the body in faith, with or without the tangible bread, he believes and he eats. And eating Christ means becoming one body with Him and to cross into partaking in His body, in His union. Thus Christ is in the believer and likewise in all believers. Like the head, He is uniting all the members in Him. So, there is only one Christ, by whom all Christians, united together in an eternal union with immortality, can have a blessed and happy life.

60. And this is the way to understand this consecration, which we now customarily carry out as a feast, in accordance with these words, which the church will enunciate at the end of the mass: "Make it so, we beg you Lord, that we be filled with the eternal enjoyment of Your divinity, which the temporal acceptance of Your precious body and blood foreshadows."

61. I now want to remind you, my son, as I did before the altar of our Lord, when I clothed you in the monastic habit of the holy order *Of the Mount of Olives*, always to remember, that you entered into this Christian army to expel from you the prince of this world, who is the prince of death, so that Christ, the Lord of peace, by this victory may rule in you. But this prince can only be defeated by Christ who said: "Be of good cheer; I have overcome the world."

62. But Christ defeated the prince of death only by dying. Don't believe that you are stronger than Christ. Where in this world is it, that the prince of the world rules? Nowhere else than in haughtiness and desire, of the flesh for sure, and of the eyes. Now, it is necessary that you throw away that in which the prince of death rules, for when he doesn't find anything of his in you, he will no longer rule you. You defeat haughtiness by humility and obedience, the desire of the flesh by chastity and of the eyes by moderate circumstances.

63. Do you want an example? Look at the Mount of Olives. When you understand what Christ was doing there, it will teach you what to do. This place is known as the mountain, the garden, or Gethsemane, i.e. *the rich valley*. Christ used to go there with His disciples, removed from the masses. You are removed, my son, from the turmoil of society, that you might more freely keep yourself company. But you won't miss anything appropriate and agreeable in this place, since no fault is found in the agreeability of this place, where everything is present proper to an agreeable place, since it is a mountain, a garden and a valley.

64. The pious is wanting of nothing. He has everything he desires, but none of those things are had by him nor possessed. He also doesn't occupy them as a possessor since his dealings are not with these things but with the heavenly things. So, he is like the one that has everything, since he is longing for nothing in this world, and therefore desires no possession.

65. If you, being at this remote place, do not there find Christ present with His disciples, you are not where you should be. For any place where Christ is not present, Satan is. So, make sure that you regard Christ, and how He with His disciples, after having said the prayer, went over the brook Cedron or *the brook of sorrow* and into the garden.

66. Now, follow Him with mourning and sorrow, with all the joy of the world extinguished, and observe how, when He had sent away the other eight disciples, He gathered Peter, Jacob and John, who were also with Him on Mount Tabor, and uncovered His sorrow saying: "my soul is exceeding sorrowful, even unto death." Then He also left them and alone He withdrew Himself about a stone's cast. Then He prayed the first time, the second time He kneeled down, and the third time He fell to the ground and "being in an agony He prayed more earnestly: and His sweat was as it were great drops of blood falling down to the ground."

67. You see, my son, how your Christ asked to let the cup of suffering pass from Him, but always preferred the will of His Father to His own. But in this conflict, where the knowledge of death and pain presented itself to Christ as He foresaw His suffering, His soul was made sorrowful with a grief that could not be any greater, because it was even unto death.

68. No one else has ever, nor will ever have, knowledge about death and its pain except Christ. Because He was knowing, He became sorrowful unto death and therefore this death of Christ held the pain in it from everyone dying. For they are all without the knowledge of death, which they can neither have before they die, nor when they are dead. Therefore the death of Christ is the complete death, which, since it exceeds the bitterness of any other pain of death, gives everyone life by dying all their deaths. And that is the repayment of the death above all deaths, that of Christ, the savior of all.

69. My son, learn to follow Christ in His prayer on the Mount of Olives. And do not believe that you pray, if you are not in agony unto death, and at least in spirit get up from your prayer as from a shower, soaked in your blood and burned by your hot tears. Then you will be comforted like Christ, and as the victor over the death of the senses, which you have given as ransom, you will be made happy.

70. It is necessary, my son, that you invest your entire effort in imitating Christ, and that you enter into the greatest struggle to purge the earthly desire and life in order to become a perfect monk, who is dead for the world. And although one should not step too far away from Simon, Peter, Jacob and John, the four columns of faith—the obedience of Simon, the supply of necessities by Jacob and the chastity of John should always follow a monk—one should nevertheless sometimes dismiss those too, in order to commit oneself fully to prayer. The struggling monk will leave everything behind and abstain from it all, in order to be victorious in his fight.

71. Look, my son, how even-tempered Christ consented to the death on the cross, because the will of God conquered the will of the human being. As long as its own will lives in the human being, it is under the power of evil and lives on this earth. But in the one whose will is ruled by God, the own will is defeated and dead. Therefore, make sure to purge your own will and make the will of Christ, the victor, live in you and that of His representative, that is the father of the order. And let yourself be moved by the will of Christ through your superior, and fully direct yourself according to it, without any reservation, like a beast of burden.

72. Enslave yourself to gain freedom, for perfect obedience will make you free. Then that you shall not be convicted on the day of reckoning, without reservation you may answer the strict jury thus at all questions: 'I did nothing out of myself, but out of Your will, which the leader of the order made known to me, and which I executed to the best of my ability. This is the greatest privilege of the pious; to continually follow Christ in his superior, that he himself might be dead, but through the superior live in Christ, now and for eternity.

73. This I wrote, as it was given by God, out of the love that I carry for your holy order and for you personally, who is dear to me, that you may become more tied to me and move yourself to make mention of me in your holy prayers, in which I also devotedly recommend that you make mention of all the holy brothers with me.

– Montepulciano, the Saturday after the Octave of the Feast of Corpus Christi, 1463

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# Translation:
# On the Sublime

## By Friedrich Schiller

## Translated by Leni Rubinstein

"No man must must," said Nathan the Jew to the dervish, and this expression is true to a greater extent than one perhaps would like to admit. The will is the species character of humankind, and reason itself is only the eternal law of the will. The entirety of nature acts reasonably; man's prerogative is merely that he acts reasonably with consciousness and will. All other things must; man is the being, who wills.

Exactly for this reason, nothing is more unworthy of man than to suffer violence, for violence annuls him. One who inflicts violence upon us, disputes nothing less than our right to humanity; one who suffers violence in a cowardly manner, throws his humanity away. But this claim to absolute liberation from all that is violence, seems to presuppose a being who possesses enough force to repel every other force away from himself. If this claim to absolute liberation from all violence is found in a being, who does not hold the highest rank in the realm of powers, an unhappy contradiction arises between his drive and his ability to realize it.

Man finds himself in this condition. Surrounded by countless powers, which all are superior to him and play the master over him, he demands through his nature, not to suffer from any violence. Indeed, he artificially increases his natural powers by his mind, and up to a certain point actually succeeds in physically mastering everything physical. There are remedies against everything, the proverb says, except death. But if this single exception actually exists in the strictest sense, it would annihilate the whole conception of man. He can never be the being who wills, if there is even *one* case, where he absolutely must do what he does not will. This single horror, that he *solely must do what he does not will*, will accompany him like a phantom and, as is actually the case with most men, will surrender him as a prey to the blind terrors of imagination; his celebrated freedom is absolutely nothing, if there is only but one single point where he is constrained. Culture is supposed to liberate man and help him in fulfilling his entire self-conception. It should therefore enable him to assert his will, for man is the being who wills.

This is possible in two ways: either *in reality*, when man counters violence with violence, when he rules over nature as nature himself; or *ideally*, when he steps outside of nature and thus, in regard to himself, annihilates the concept of violence. What assists him in the first instance is called physical culture. Man cultivates his mind and his sensuous powers, either to make the powers of nature, according to their own laws, into instruments of his will, or to protect himself from their effects when he cannot control them. Nature's power only allows her to be ruled or fended off up to a certain point; beyond this point, she evades the power of man and casts him under her power.

Therefore man's freedom would be lost, if he were capable of no other culture than physical culture. But he must be man without exception, and therefore on no account suffer something *against* his will. Can he no longer oppose the physical powers with a comparable physical power, in order to suffer no violence, there remains nothing other than: to destroy absolutely *a condition*, which is so detrimental to him, and to declare a violence, which he must suffer in reality, *annihilated as a concept*. Annihilating violence as a concept, means however nothing else than to submit oneself to it voluntarily. The culture which makes him capable to do so, is called moral culture.

The morally cultivated man, and only he, is entirely free. Either he is superior to nature as a force, or he



*"The sublime thus provides us with an exit from the sensuous world, in which the beautiful always would like to imprison us. Not gradually (for there is no transition from dependency to freedom), but suddenly and with a tremor, the sublime tears the independent spirit free from the web with which the refined sensuousness had ensnared it, and which binds more tightly, the more subtle it is spun."*
*Image: "Cotopaxi" by Frederic Edwin Church (1862)*

is in harmony with it. Nothing which nature exerts on him is violence: because, before it reaches *him*, it has already become *an act of his own*, and the dynamic nature never even reaches him, because he, acting voluntarily, separates himself from everything which nature can reach. This state of mind, however, which morality teaches as the concept of the resignation to necessity, and religion teaches as the concept of the surrender to divine decree, requires, if this is to be a work of free choice and reflection, a greater clarity of thinking and a higher energy of the will, than man is accustomed to in his own practical life. Fortunately, however, there is not just a moral predisposition in his rational nature, which can be developed through the understanding, but even in his sensuous reasoning, that is his human nature, there is an *aesthetical* tendency available, which through certain sensuous objects can be awakened and which can be cultivated and, through purification of his feelings, can be cultivated into this ideal uplifting of the mind. Even the realist displays this ideal predisposition clearly enough in his life, although he does not admit it into his system. I will now discuss the concept and being of this indeed ideal predisposition.

> **Let evil fate show itself to us face to face... For where would he be, who, alongside a moral composition not entirely spoiled by neglect... can linger with such scenes without paying homage to the stern law of necessity with a shudder, momentarily reining in his desires and, seized by this eternal unfaithfulness of everything sensuous, to strive in his bosom for that which is permanent?**

Indeed, the developed feelings for beauty are already sufficient, up to a certain degree, to make us independent of nature as a force. A mind, which has ennobled itself so far to be touched more by the form than by the matter of things, and, without any regard as to possession, to derive a free pleasure from the mere reflection upon the way a phenomenon manifests itself, such a mind has within itself an internal abundance of life, which cannot be lost; and, since it does not have the need to possess the objects among which it lives, it is not in danger of being robbed of them. Ultimately, however, the appearance needs a

body in which to make its appearance, therefore, as long as a need exists for beautiful appearances, there remains a need for the *existence* of objects, and our satisfaction is consequently still dependent on nature as a force, which rules over all existence. Namely, it is something entirely different, whether we feel a desire for beautiful and good objects, or if we merely desire that existing objects be beautiful and good. The latter can exist with the highest freedom of mind, but not the former. That existing things be beautiful and good, we can demand, that the beautiful and good exist, merely wish. That frame of mind, which is indifferent as to whether the beautiful, good and perfect exists, but with rigorous sternness demands that that which exists be beautiful, good and perfect, is pre-eminently great and sublime, because it contains all the realities of the beautiful character without sharing its limits.

It is a characteristic of beautiful and good, but at the same time weak souls, to always insist impatiently on the existence of their moral ideals, and to be painfully affected by the obstacles in their way. Such men make themselves sadly dependent on chance, and it can always be predicted with certainty, that they grant too much to matter in moral and aesthetical things, and will not pass the most critical test of character and taste. Moral deficiency should not instill in us suffering and pain, the which is always more evident of an unsatisfied need than of an unfulfilled demand. The latter must rather be accompanied by a more intense feeling, and strengthen and fortify the mind, than making it depressed and unhappy.

There are two genii, whom nature gave us as companions through life. The one, sociable and charming, shortens our troublesome journey with its merry play, lightens the chains of necessity and leads us amid joy and jest up to the dangerous places where we must give up all bodily things and act as pure spirits — to the recognition of truth and the execution of duty. Here, this genie abandons us, for the sensuous world is his domain, and beyond this his earthly wings cannot carry him. Now, however, the other genie approaches, serious and silent, and carries us with a strong arm across the dizzying abyss.

It is with the first of these genii that we recognize the feeling of the beautiful, in the second the feeling of the sublime. Indeed, the beautiful is already an expression of freedom, but not the freedom which uplifts us above the forces of nature and sets us free from all bodily influence, but rather the freedom which we enjoy within nature as men. We feel free with beauty, because the sensuous drives harmonize with the laws of reason; we feel free with the sublime, because the sensuous drives have no influence on the legislation of reason, because the spirit acts here, as if it were only subject to no other laws than its own.

The feeling of the sublime is a mixed feeling. It is a combination of a state of *woe*, which expresses itself in its highest degree as a shudder, and a state of *joy*, which can increase to ecstasy, and although it is not exactly pleasure, is greatly preferred by fine souls to all other pleasures. This union of two contradictory feelings into a single emotion irrefutably proves our moral independence. Since it is absolutely impossible that the same object would exist in two different relationships to us, it follows, that *we ourselves* stand in two opposite relationships to the object. Two opposing natures must be united in us consequently, which are interested in the idea of the same object in entirely opposite ways. Therefore, with the feeling of the sublime we experience that our state of mind does not necessarily conform to the state of our senses, that the laws of nature are not necessarily our laws, and that we have a self-dependent principle in us, which is independent of all sensuous emotions.

The sublime object is of a double nature. We relate it either to our *power of comprehension*, and fail in the attempt to form an image or conception of it; or we relate it to our *vital*, *living power*, and view it as a force, against which our forces vanish into nothing. But, although in both cases we acquire the painful feeling of our limitations, we do not flee from it, but will be even more attracted to it with irresistible force. Would this be possible, in case the limitations of our imagination were simultaneously the limitations of our powers of comprehension? Would we want to be reminded of the all-mightiness of the powers of nature, if we did not possess something else in reserve that cannot become the prey of nature's powers? We take delight in the sensuous-infinite, because we can think what the senses can no longer grasp and what the mind no longer comprehends. We are inspired by the terrifying, because we can think what our senses abhor, and reject what they desire. We gladly let the imagination find its master in the realm of phenomena, for ultimately, it is only one sensuous power, which triumphs over another sensuous power. But nature in its whole infinitude cannot reach the absolute greatness in us. We gladly submit our well-being and existence to physical necessity, exactly because it reminds us that physical necessity has no command over our principles. Man is in nature's hand, but man's will is in his own hands.

And thus has even nature used a sensuous means, to teach us that we are more than merely sensuous; nature knew how to use sensations, in order to lead us to the path of the discovery that we are not at all subjected slavishly to the force of sensations. This effect is entirely dif-

ferent from what can be produced by the beautiful—that is by the beautiful of the real world, for even the sublime must also lose itself in ideal beauty. Reason and sensuousness harmonize in the beautiful, and only because of this harmony, the beautiful charms us. Through beauty alone we would never learn, in all eternity, that we are destined and capable of proving ourselves as pure intelligences. On the contrary, with the sublime, reason and sensuousness *do not* harmonize, and it is precisely in this contradiction between the two that the magic resides which captivates our soul. The physical and moral man are differentiated here in the most striking manner; for it is precisely in such objects where the physical man feels his limits, that the moral man experiences his *power*, and is infinitely uplifted precisely through that which crushes the physical man to the ground.

I will assume a man shall possess all the virtues, the unity of which constitutes *the beautiful character*. His pleasure shall be found in the practice of justice, benevolence, moderation, constancy, and faithfulness; all duties which circumstances impose on him shall become easy play, and his fortunate situation makes it easy for him to do every act which his charitable heart may prompt him to do. Who will not be delighted with this beautiful unison of the natural drive with the commandments of reason, and who could refrain from loving such a man? But can we be certain, with all our affection for him, that he actually is a virtuous man, and that virtue exists at all? Even if this man only pursued pleasurable experiences, he could not act any differently (than virtuously) without being a fool, and he would have to hate his own gain if he chose to be wicked. It might be that the source of his actions is pure, but he must settle that in his own heart: *we* see nothing thereof. We see him do nothing more than also the merely clever man would have to do, who makes pleasure his god. Therefore, the sensuous world accounts for the entire phenomenon of his virtue, and we have no need at all to look beyond that world for a cause.

This same man shall, however, suddenly fall into a great misfortune. He shall be deprived of his possessions, his reputation shall be ruined. Illness shall throw him into a painful bed; everyone he loves shall death snatch away from him; everyone he trusts, shall leave him in distress. Now seek the unfortunate man in this condition and demand that he practice the same virtues, which he was so ready to do previously in his prosperity. If one still finds him in this situation to be virtuous, if his poverty has not diminished his benevolence, ingratitude not his readiness to serve, pain not his equanimity, his own misfortune has not diminished his partaking of the happiness of others—if the change in his circumstances can be perceived in his appearance, but not in his conduct, perceived in his material ability, but not in the spirit in which he acts—then certainly his virtue cannot be explained from the *concept of nature* (which assumes it is absolutely necessary, that the present is based on something past, as effect is to cause), because nothing can be more contradictory than to assert that the effect would remain the same, when the cause has changed into its opposite. Therefore, every explanation to derive his behavior from his circumstances, which proceeds from nature, must be abandoned and dismissed outright. The cause of his conduct must be relocated outside of the physical order of the world to a totally different one, which reason can reach with its ideas, but which is incomprehensible to the understanding. This discovery of the absolute moral capacity, which is independent of any precondition of nature, gives us the melancholy feeling, and the completely unique, inexpressible charm which seizes us with the

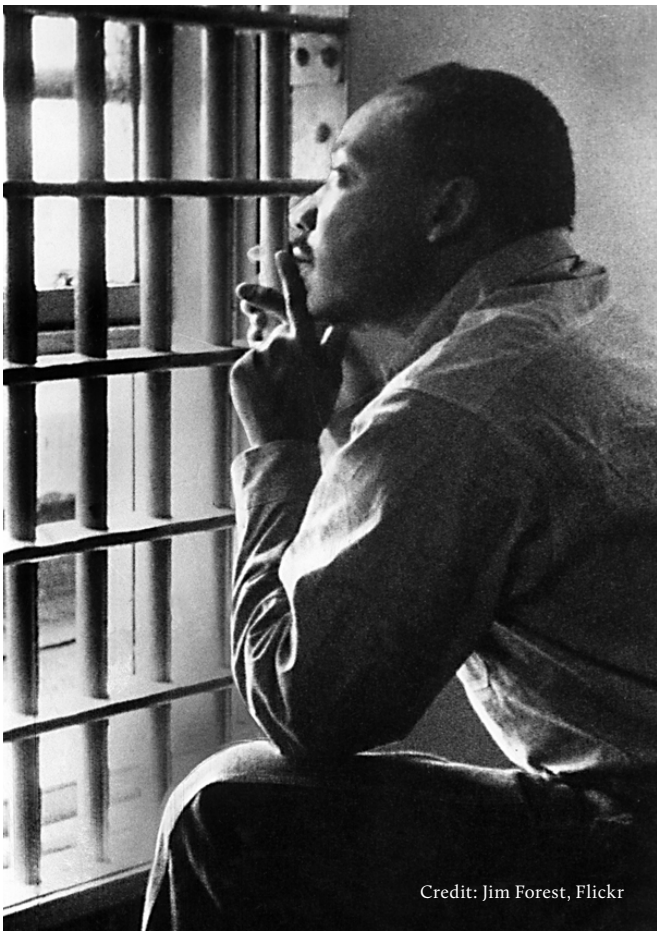


*As far as nature is concerned, man's power lies not in his physical superiority, but in his annulment of nature's concept of force itself. "Either he is superior to nature as a force, or he is in harmony with it. Nothing which nature exerts on him is violence: because, before it reaches* him, *it has already become* an act of his own, *and the dynamic nature never even reaches him, because he, acting voluntarily, separates himself from everything which nature can reach."* *Image: "Sketch of a Roaring Lion" by Leonardo da Vinci*

sight of such a man. No pleasure of the senses, however ennobled they may also be, can compete with the sublime.

The sublime thus provides us with an exit from the sensuous world, in which the beautiful always would like to imprison us. Not gradually (for there is no transition from dependency to freedom), but suddenly and with a tremor, the sublime tears the independent spirit free from the web with which the refined sensuousness had ensnared it, and which binds more tightly, the more subtle it is spun. Even if, through the imperceptible influence of a delicate taste, sensuousness has gained so much control over human beings—if it has succeeded, seductively veiled in spiritual beauty, in managing to penetrate into the innermost seat of moral law, and there to poison at its source the sanctity of maximes, one single sublime stir is often enough to shred this web of deceit, to suddenly give back to the fettered spirit its entire power of speed, to grant to it a revelation about its true purpose and, at least for the moment, to impose a feeling of its dignity. Beauty in the gestalt of the goddess Calypso has enchanted the brave son of Ulysses, and by the force of her charms she holds him spellbound on her island for a long time. For a long time he believes that he is paying homage to an immortal deity while merely resting in the pit of lechery—but a sublime impression suddenly seizes him in the gestalt of Mentor: he remembers his higher purpose, throws himself into the waves, and is free.

The Sublime, like the Beautiful, is poured lavishly throughout all of nature, and the perceptive faculty for both is planted in all men; but the seed develops unequally to that end, and must be helped by art. Indeed, the purpose of nature is such that we first hasten toward beauty, even as we still flee from the sublime; for beauty is our nurse in the age of childhood and should lead us from the crude natural state to civilization. But although beauty is our first love and our perceptive faculty unfolds first, nature has nevertheless arranged it such that this faculty matures more slowly and awaits the development of understanding and of the heart before it fully develops. If taste were to reach its full maturity before truth and morality upon a better pathway were implanted in our heart, as can happen through taste, the sensuous world would eternally remain the limit of our efforts. We would neither go beyond the sensuous world in our concepts, nor in our sentiments, and what the imagination cannot represent would consequently have no reality for us. But fortunately, it is already embedded in the order of nature that taste, although it blossoms first, is the last of all faculties of the mind to ripen. In the meantime a sufficient period is gained to plant a wealth of concepts in the mind




*Martin Luther King Jr. in jail in Birminham, Alabama*

and a treasure of principles in the breast and then especially to develop by reason the perceptive faculty for the great and sublime.

As long as man was a mere slave of physical necessities and had not yet found an exit from the narrow circle of mere survival, and did not yet have any inkling about the elevated *spiritual* freedom in his breast, consequently the *incomprehensible* nature could only remind him of the limits of his imaginative power, and the *destructive* nature could only remind him of his physical weakness. He must therefore pass by the former with despondency, and turn away from the latter in horror. But barely does free contemplation make room for him against the blind rush of the powers of nature, and barely does he discover in this flood of phenomena something permanent in his own being, so that the wild masses of nature around him begin to speak an entirely different language to his heart; and the relatively great outside him becomes the mirror in which he beholds the absolute greatness in himself. With thrilling delight he now fearlessly approaches these frightful images of his imagination and intentionally summons the entire power of this capacity to display the sensuous-infinite, in order, even if this attempt fails, to feel all the more vividly the superiority of his ideas over

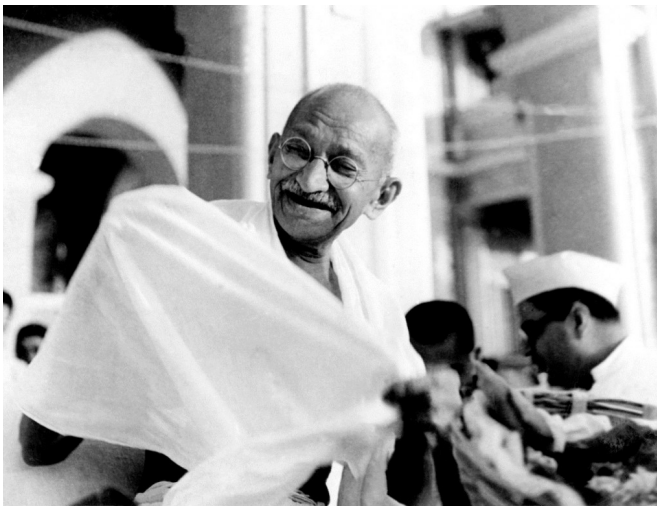


*The manicured perfection of a French garden, while it may be beautiful, is incapable of inspiring the sublime. Pictured here is a garden at Chateau de Versailles, France.*
*"Exactly that which makes the wild bizarreness in physical creation so attractive to the traveler of perception, reveals the source of quite a special pleasure to an enthusiastic mind, even in the dubious anarchy of the moral world."*

the highest achievement that the sensuous can accomplish. The sight of endless distances and incalculable heights, of the wide ocean at his feet and the vaster ocean above him, wrests his spirit from the narrow sphere of what is real and the oppressive bondage of physical life. The simple majesty of nature holds up a larger measuring rod before him, and, surrounded by its great forms, he can no longer bear littleness in his mode of thinking. Who knows how many bright thoughts or heroic resolutions, which no study-dungeon and no society parlor would have brought to the world, this courageous struggle of the mind with the great spirit of nature, were not in part born during a walk—who knows if it is not partly attributable to the more rare intercourse with this great genius of nature, that the character of the city dweller so willingly turns to petty things, crippled and withered, whereas the mind of the nomad remains open and free like the firmament beneath which he encamps.

Not merely that which is unreachable for the imagination, the sublime of quantity, but also that which is incomprehensible for the understanding, *the confusion*, can as soon as it passes into greatness and heralds itself as a work of nature (for otherwise it is contemptible), serve as a representation of the supra-sensual and give an impetus to the mind. Who would not rather linger in the spirited disorder of a natural landscape, than in the spiritless regularity of a French garden? Who would not rather gaze at the wonderful struggle between fertility and destruction in Sicily's meadows, rather not graze his eyes on Scotland's wild waterfalls and misty mountains, Ossian's great nature, than admire the hard-won victory of patience over the most defiant of the elements in straight-laced Holland? No one will deny, that better care is taken for the physical man in the pastures of Batavia than under the treacherous crater of Vesuvius, and that the understanding, which wants to comprehend and order things, will be more satisfied in a regular farm garden than in a wild natural landscape. But man has a further requirement than just to live and to be well; he has yet another destiny, than just to comprehend the phenomena around him.

Exactly that which makes the wild bizarreness in physical creation so attractive to the traveler of perception, reveals the source of quite a special pleasure to an enthusiastic mind, even in the dubious anarchy of the moral world. Certainly, he who illuminates the great housekeeping of nature with the dim torch of *the understanding* and always only aims at dissolving its bold disorder into harmony, cannot be pleased in a world where mad chance seems to rule more than a wise plan and where merit and fortune are in contradiction with each other in most cases. In the great course of the world he wants everything to be ordered as in a well-regulated household, and when this lawfulness is lacking, which it surely will be, then nothing remains left to him, except to await that satisfaction from a future life and a different nature, which he did not get from the present and the past. If he, on the contrary, voluntarily gives up wanting to subject this lawless chaos of phenomena to a cognitive unity, he gains amply from the one side, what he loses on the other. Exactly this complete lack of cause and effect in this throng of phenomena, which makes it overwhelming and useless for the understanding, which must maintain this type of connection, makes it an all the more precise symbol for pure reason, which finds in this wild lawlessness of nature the representation of its own independence from conditions of nature. Because, if one takes hold of all connections of a series of things under oneself, then one obtains the concept of independence, which surprisingly harmonizes with pure reason's concept of freedom. With this idea of freedom, which it takes from its own means, reason therefore embraces what the understanding cannot bind in a cognitive unity into a unity of thought, submits itself through this idea to the infinite play of phenomena and simultaneously asserts its authority over the understanding as a sensuously conditioned capacity. If one now recalls how important it must be for a being of reason to become conscious of his independence from natural laws, then one comprehends how men of a sublime disposition of mind can be compensated by this idea of freedom for every disappointment of cognition. Freedom in all its moral contradictions and physical evils is an infinitely more interesting spectacle for noble minds than prosperity and order without freedom, where the sheep patiently follow the shepherd



*"If one still finds him [the distressed man] in this situation to be virtuous, if his poverty has not diminished his benevolence, ingratitude not his readiness to serve, pain not his equanimity, his own misfortune has not diminished his partaking of the happiness of others... The cause of his conduct must be relocated outside of the physical order of the world to a totally different one, which reason can reach with its ideas, but which is incomprehensible to the understanding."*
*Image: Mahatma Gandhi*

and the self-ruling will is degraded to a subservient cog in a wheel. The latter merely makes man into a spiritual product and happier citizen of nature; freedom makes him the citizen and co-ruler of a higher system, where it is infinitely more honorable to occupy the lowest place than to lead the ranks in the physical order.

Considered from this point of view, and *only* from this, world history is a sublime object to me. The world, as an historical subject matter, is fundamentally nothing else than the conflict of the powers of nature among themselves and with the freedom of humankind, and history presents the effect of this struggle to us. As far as history has advanced until now, it has much greater deeds of nature to recount (to which must be included all human emotional states) than of independent reason, which has been able only to assert its power through particular exceptions of natural law in a Cato, Aristides, Phocion, and similar men. If one approaches history with great expectations of light and knowledge—how much is one then deceived! All well-meaning attempts of philosophy to harmonize what the moral world *demands* with what the real world *carries out*, are contradicted by the evidence of experience, and as pleasantly as nature conforms or seems to conform in its *organic realm* with the regulative principles of judgment, just as mightily, in the realm of freedom, does nature tear from our grip the reins with which the speculative mind would like so much to guide it into captivity.

How entirely different, if one gives up trying to *explain* it and makes this incomprehensibility itself the standpoint of judgment! The very circumstance that nature, viewed in the large, mocks all rules which our understanding prescribes to it, that it crushes the creation of wisdom and chance to the dust in its own self-willed free action with the same disregard, that it sweeps away the important as well as the unimportant in *one* destruction, the noble as well as the base; that here it maintains a world of ants, and there holds and crushes its glorious creation, human beings, in its giant arms; that it often wastes its most hard-won gains in one frivolous hour and consumes centuries in building a work of folly—in a word: this revolt of nature at large from the rules of cognition, by which its particular phenomena are governed, makes evident the absolute impossibility of explaining *nature itself* by *the laws of nature*, and of applying *to* its realm what is applied *in* its realm, and the mind is irresistibly driven from the world of phenomena to the world of ideas, from the conditioned into the unconditioned.

Terrible and destructive nature leads us even further than the sensuous-infinite, so long as we simply remain free observers of it. Certainly the sensuous man, and the sensuality in the reasoning man, fear nothing so much as quarreling with this force, the which governs our well-being and existence.

The highest ideal toward which we strive, is to remain on good terms with the physical world as the preserver of our happiness, without being obliged to break with the moral world, which determines our dignity. But as is known, it is not always possible to serve both masters, and even if duty should never come in conflict with need (an almost impossible case), natural necessity does not make a treaty with man, and neither his power nor his skill can secure him against the pranks of fate. Happy is he who has learned to bear what he cannot change, and to abandon with dignity what he cannot save! Cases can occur, where fate overcomes all the defenses upon which he founded his safety, and nothing further remains to him but to take refuge in the sacred freedom of the spirit; where no other means exist to calm the drive for life than to will it, and no other means to resist the force of nature than to anticipate it, and, by a voluntary annulment of all sensuous interests before a physical power acts, to morally disembody oneself before a physical power does so.

To accomplish this sublime emotion and a more frequent relation to the ravages of nature strengthens man, both where destructive nature merely shows him its deadly might from a distance, as well as where it actually manifests this might against his fellow man. The pathetic is an artificial misfortune, and like a true misfortune it places us in *direct contact* with the spiritual law which rules in our bosom. However, the true misfortune does not always select its man and time well; it often surpris-

es us defenseless, and what is still worse, it often *makes* us *defenseless*. On the contrary, the artificial misfortune of the pathetic finds us in full armor, and because it is merely imagined, the independent principle of our mind gains capacity to assert its absolute independence. Now, the more frequently the mind renews this deed of independence, the more this becomes a skill for him, winning an ever greater advantage over the sensuous drive, so that he at last, were an imagined or artificial tragedy to become a serious one, is capable to handle it as if it were an artificial one and—the highest soaring of human nature!—to dissolve the real suffering into a sublime emotion. Therefore, the pathetic, one can say, is an inoculation against inevitable fate through which it robs fate of its wickedness and redirects its assault to the strong side of man.

Therefore, away with the falsely understood indulgence and the soft, pampered taste, which throws a veil over the stern face of necessity, and, in order to find favor with the senses, *lies* about a harmony between well-being and well-doing, of which there are no traces in the real world. Let evil fate show itself to us face to face. Our salvation lies not in being ignorant of the dangers surrounding us—for this ignorance must ultimately cease—but only in *knowledge* of the dangers. We are now helped in this knowledge by the awfully magnificent spectacle of all-destroying, then all-creating, then all-destroying change—by the sometimes slowly undermining, sometimes quickly assaulting ruin; we are helped by the pathetic portraits of humankind struggling with fate, of the inevitable flight of fortune, of deceived security, of triumphant injustice and of defeated innocence, portraits which abound in history and which tragic art through imitation brings before our eyes. For where would he be, who, alongside a moral composition not entirely spoiled by neglect, reading of the determined and yet futile fight of Mithridates, or of the collapse of the cities Syracuse and Carthage, can linger with such scenes without paying homage to the stern law of necessity with a shudder, momentarily reining in his desires and, seized by this eternal unfaithfulness of everything sensuous, to strive in his bosom for that which is permanent? The ability to feel the sublime is therefore one of the most glorious faculties of human nature, which, because of its origin in the independent capacity of thought and will, deserves our *attention*, and because of its influence on the moral man, deserves the most perfect development. The beautiful is merely well-deserved of the *human being*, the sublime well-deserved of the *pure spirit* in him; and since it now is our destiny to conform to the law book of pure spirits even with all our sensuous limits, the sublime must be added to the beautiful, in order to make the *aesthetic education* into a complete whole, and to broaden the perceptivity of the human heart to be in accord with the whole extent of our destiny, and consequently, therefore, also beyond the world of sense.

Without the beautiful there would be a perpetual conflict between our sensual and our rational destiny. In the attempt to satisfy our *spiritual mission*, we would neglect our *humanity* and, always prepared to depart from the world of sense, we would forever remain strangers in this sphere of activity assigned to us. Without the sublime, beauty would make us forget our dignity. In the relaxation of an uninterrupted pleasure, we would forfeit the vigor of *character* and, in *this contingent form of existence* permanently chained, we would lose sight of our unchangeable destiny and our true fatherland. Only when the sublime is wedded to the beautiful and our receptivity for both has been developed equally, are we perfected citizens of nature, without therefore being nature's slaves and without throwing away our rights as citizens in the intelligible world.

Indeed, nature already exhibits a multitude of objects for itself alone, which can develop the perceptivity for the beautiful and sublime; but, as in other cases, so also here is man served better by the second hand than by the first, and would rather receive a work finished and chosen by art than drawn painstakingly and meagerly from the impure spring of nature. The drive for creative imitation in art cannot receive any *impression* without immediately striving for a living *expression*, and sees in every beautiful or great form of nature a challenge with which to wrestle; art has the great advantage over nature of being permitted to treat as a main object and a distinct whole that, which nature—if it does not unintentionally throw it down—merely takes along in passing, in pursuit of a nearby end. Whether nature *suffers violence* in its beautiful organic structures either by the imperfect individuality of the material or by the effect of dissimilar powers, or whether it *exerts violence* in its great and pathetic scenes and acts as a force on man, though it can become aesthetic only as an object of free contemplation; so is, however, its imitator, creative art, entirely free, because it separates all accidental limits from its object, and leaves the mind of its beholder free, because it only imitates the *appearance* and not the *reality*. But since the whole magic of the sublime and the beautiful only resides in the appearance and not in the substance, so has art all the advantages of nature, without sharing its fetters.

*– Many thanks to Renee Sigerson, who helped in the end to 'fine-polish' the English and had many valuable insights and suggestions. Of course, any mistakes are my responsibility.*

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# Schiller and Einstein Defeat Today's Cult of Violence Against Beauty

## By Richard A. Black and Leni Rubinstein

*This is an edited transcript of a class given on March 20th of this year as part of a class series entitled: "Introduction to LaRouche."*

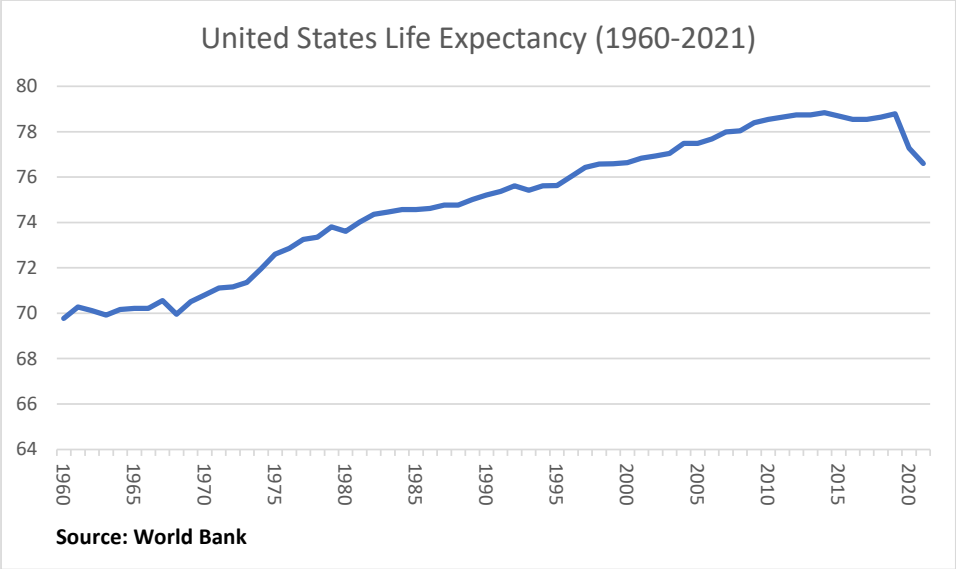
**Richard Black:** Let's begin by looking at the culture which young people have been given today. That culture is ugly, it's painful, and it's destructive of access to the most beautiful power of great art. What do we have around us: massive drug addiction, poverty in massive increase, suicide rates expanding, emotional brutality. Life expectancy this year, in the US at least, has gone down. So you can expect that *you* will live a shorter life than your parents will have. So in sum, you are being robbed of a great, great heritage, which is the power and beauty of great music, great painting, great art, which we're going to be looking at some this evening.

Look at the music people listen to today, the books they're given to read, what they watch on TikTok and Reddit. Let's take the example of drama. We could take music. The horrible art hanging in modern museums. Let's look at popular drama today: *The Hunger Games*, *Squid Game* and *Euphoria*. The trilogy of *The Hunger Games*—now this goes back about ten years—has sold 65 million copies in 50 countries. *Squid Game* is the most popular drama worldwide: 165 million households watch it in 95 countries. And *Euphoria*, which is the rage today, is the second biggest watched HBO product. You know the content of the dramas; in *The Hunger Games*, young people fight each other to the death in order to get some sustenance, some life-saving aids to save the impoverished people in their little neighborhoods. This is all within the context of a fascist police state. In *Squid Game*, you have bankrupted individuals, some young, some old. They also fight each other to the death... in order to do what? To get money. To get where? To get out of bankruptcy. *Euphoria* is contemporary. You have a group of high school students, drug addicts, their families, drug dealers involved in violent rages, brutal fights, pedophilia, public revenge sex. This is the drama that people watch!

So, you might ask, what is going on here? What is driving the mass media, the corporate entities to peddle this stuff? And perhaps more importantly, why are *you* watching it? Why are you spending your money? Why are you spending your time in this torture? Netflix, of course, and HBO, and Scholastic Publications—which is the largest U.S. *children's book publisher* (!), that's the publisher of *The Hunger Games*—are making billions of dollars peddling this, internationally.

So what is this aesthetic? It's about avoiding pain, or reducing pain, or inflicting pain, or taking an anesthetic, a drug to numb the pain. And somehow this is connected to pleasure, and this passes as great drama. The actors in these dramas win the highest awards. *The Hunger Games* is a *New York Times* bestseller, so the establishment which created these monstrosities has given it their public stamp of approval. The actors, the dramas receive the highest awards. This is put forward as "serious" culture. This is not pop singing. This is what people go to for drama.

LaRouche has said that the origins of this cult of ugliness goes back 200 years in the modern period to a German philosopher, Immanuel Kant. LaRouche, in fact, said that Kant's approach is Nazi like. So we're going to take a look at that. For Kant, what art does is it gives you pleasure or "the pleasant," or generates interest, and that is the domain in which it exists. You go to it in order to increase your pleasure. There are no scientific principles, no classical principles, no reason to it, no reproducible qualities to it. So, let's see the first quote. (Now, you may be calling me a hypocrite because reading Kant is somewhat tortuous, but I want you to see a little bit of the original to see what




we're talking about.) In this quote, Kant talks about *the art object* and *the subject*. The *subject* is you and I, the *object* is the drama:

> For I must immediately feel pleasure in the representation of the object of art, and of that I can be persuaded by no grounds of proof, whatever. Although, as Hume says, all critics can reason more plausibly than cooks, yet the same fate awaits them. They cannot expect the determining ground of their judgment to be derived from the force of the proofs, but only from the reflection of the subject upon its own proper state of pleasure and pain. All precepts and rules being rejected.

No principles, no precepts are involved in art. It's about a one-to-one relationship between the viewer, the subject, having this experience; the metric is pleasure, pain. There are no principles and it's not intelligible. How the great dramatist, the great painter, does what he or she does is not subject to understanding or any kind of proof. Let's have the second quote.

> From this alone, it is plain that the beautiful, the judging of which has at its basis a merely formal purposiveness, that is, a purposiveness without purpose [which] is quite independent of the concept of the good, because the latter presupposes an objective purposiveness, i.e., the reference of the [art] object to a definite purpose.

I'm told that Kant's original German is as bad as the English translation, but you get the point. The beautiful in art has no connection to the concept of the Good. This is evil. This is satanic. Now, for lack of time, we won't go into it in great detail. And I want to hand things over to Leni. But for Kant, the Good does not exist. What exists is each individual in society having a series of negative impulses: lust, theft, murder, stealing. "We all have it, you know." These are called negations in Kant's world, and therefore what society has to do is negate each of our negations. And if we can have an institution which negates the negations, that's a good society. The Good as a principle of the universe as a whole does not exist. So this is, in fact, quite evil. Think of *The Hunger Games*. That's what we're looking at.

This extends into the more modern period in the late 1800s, with the London-based figure Oscar Wilde, whom you may know, made famous the idea of "art for art's sake." No purpose, no noble mission, no scientific principles, it's all about your pleasure. And if it's pain that gives you pleasure, well, that's your pleasure or your pain. That's the domain that we're working in. The science of art doesn't exist. And in fact, in the generation after Kant, in the circles of Hegel, you have a complete split in areas of investigation between *Geisteswissenschaft* and *Naturwissenschaft*, *Geistes* meaning the spirit, *Natur* the physical universe, nature. And as probably anybody who was in school remembers, you're told that the world of the spirit—art, painting, poetry—has certain characteristics. And then there's the other world of the physical universe: astronomy, physics, the "hard things." And you're either one or the other. Either it's your right brain or your left brain, and you have to choose which universe you live in. These academics claim that there is no single universe—it's not a universe. This is a living hell. It's a complete lie, and generally we're indoctrinated into this lie very early on. So for Kant, the only thing that exists is negativity. This is a nightmare similar to *The Hunger Games*. So, was Kant merely wrong, or, as LaRouche said, is his world-view Nazi-like?

Kant writes his 300 page tome, *The Critique of Aesthetical Judgement*—that's what I'm describing here—in 1790. This is the historical moment when, in America, Alexander Hamilton is writing the economic blueprint for the most miraculous prosperity over the next hundred years—in the new world—that the world had ever seen. A revolution in political freedom is taking place while Kant is writing. In Europe, by 1790, Mozart had just finished ten extraordinary string quartets, which he composed with his collaborator Joseph Haydn. And together they developed a completely new compositional method—which, of course, deserves its own entire study—in which the beau-









# *Euphoria* Is the Most-Tweeted TV Show of the Decade (So Far)

*Chiara Lombatti · Updated On February 26, 2022*

ty and the intricacy and intelligibility of the human mind and heart is opened up for all to see. So, what was Kant doing while these extraordinary discoveries were going on? His assertion of the pleasure/pain calculus is clearly quite an evil political operation. The result? The debased culture that we're swimming in today.

So, I say again, you've been robbed.

You've been robbed of access to great beauty. You've been robbed of Mozart. And instead—even if you didn't know the name—you've been force-fed Kant.

Now, I think we'll allow Leni to take us down a different path and we'll proceed from there.

## What Is Real Culture?

**Leni Rubinstein:** And a *much* nicer path. There is a reason why the Schiller Institute got its name from Schiller. He's known as the "Poet of Freedom," but as will be clear, Schiller defines freedom very differently from how most people in today's culture define freedom. I would really urge everyone listening in to make Schiller a friend of yours, a friend for life. That's what Helga LaRouche told me when I was 28 years old. And I'm very thankful for that, because, when I face certain things, certain problems, I think about what Schiller would say, what Schiller would think about that? And, since he is a very beautiful and profound person, I would urge you to make him your friend.

I just got a thought when Richard talked: Schiller in his essay *On Grace and Dignity* calls Kant "the Draco of his time." So who was Draco? Not to go into it in detail, but in one of Schiller's writings on Universal History, *Lycurgus and Solon*, he writes:

> Draco was a man bereft of human sentiments, who believed human nature capable of nothing good, who saw all deeds but in the dark mirror of his own cheerless soul, and was utterly lacking in indulgence for the weaknesses of humanity; a bad philosopher, and an even worse judge of man, with a cold heart, a narrow mind, and unwavering in his prejudices. Such a man was excellently suited to implement laws, but to give laws, a worse choice were hardly possible.

So this gives you a sense of how Schiller thought about Kant.

Normally you think about Schiller as a poet, as a philosopher, and so forth, but he was actually very political in a very unique way. Everything he did, his dramas, poetry, essays on universal history, essays on philosophy, everything he produced was aimed at how to make a better society for mankind in the future. Richard mentioned the dramas that are popular today. When Schiller wrote his first drama *The Robbers*, it was immediately banned, and he was banned from writing. Then he wrote a second drama *Cabal and Love*, both dramas being contemporary. He then realized he had to flee, and that in order to be able to continue to write had to set his dramas in another time in history, but still teaching people certain lessons—exactly what Shakespeare had to do at his time. Schiller said, "When people go to the theater to see one of my dramas, I have to write the dramas in such a way that people come out being better people than they were when they came in, learning about their own follies, learning where tragedy unfolds because of lack of actions of people." A little aside about Schiller's dramas is that in every single one of these, it is the women that are the heroes. I guess it's because he wanted to organize that half of the population



*Schiller's letters on the* Aesthetic Education of Man *were written after the descent into depravity with the French Revolution, leading to a tragedy for France as a whole. Schiller commented that "A great moment had found a little people."*

to become political giants, too.

According to Schiller himself, the best he ever wrote—and it is irrefutable, he says—is the *Aesthetic Education of Man* in a series of letters. Time does not allow for me to go into this essay in detail, but it is a complete refutation of Kant and Kant's system. So you get a clear sense of the political and philosophical fight at the time regarding the ideas about man, and man's relationship to the universe and to his society, and that it was a fight for the minds of the people, a cultural fight, that Schiller was waging.

Schiller and many other thinkers were very excited about what was happening in America at the time. They eagerly followed the developments of the American revolution and Schiller, for example, had a painting of Bunker Hill over his desk where he was working. When the French Revolution began, many thinkers in Europe thought, including Schiller, "Wow, we are going to replicate what they did in America. We are going to have republics here like in the United States." And then, when the French revolution ended in horror with the guillotine and the Jacobin terror, Schiller had to rethink what needed to be done.

So he writes a number of essays that all in different aspects are developing the ideas that then are crystallized in the *Aesthetic Education of Man*. When Schiller is asked by a Danish prince to help him regarding how to solve the problems in the political affairs, he begins this series of letters back and forth to the prince. Schiller writes "It would be a great honor for me to do so, and I would love to tell you how to create political freedom, but it doesn't function like that." He says, "The only way we can get a change in the political affairs of man is through the ennoblement of the individual character. Otherwise, we are not going to have a change." And he then develops in the letters how to go about that in the most profound manner.

Kant is negating the sensuous side of man. But Schiller says, "No, the emotions of the individual must be developed. The individual must learn to sense more nobly, because the human being must develop to become a harmonious whole." He states that if you try to suppress your senses, push them aside as if they don't exist, something very ugly will result. So he says, "In order to solve the political problem in practice, one must follow the path through the aesthetic, because it is through the beautiful that one proceeds to freedom."

Letter eight and letter nine have very beautiful language, it's poetic. In letter eight he says, "Dare to be wise." And in the ninth letter, he goes on saying, "Live with your century, but don't be a creation of it. Give the society the direction towards the good, and the slow rhythm of time will get it there."

As Richard said, Kant says there is no standard, no intelligible standard for truth and beauty, and there's no intelligible principle of creative discovery. But that is what makes man, man. So Kant basically says you have to negate everything that is human in you, or that is the foundation of passion for good, which you cannot attain if you follow Kant.

Schiller wants the individual human being to develop as a harmonious whole, and he says, "You educate your emotions through classical art." And therefore I hope that people took Jason's challenge from the first class seriously, where he said, "Listen to classical music every day for a month." I will make a bigger challenge: Listen to the 172 CDs of Bach—Johann Sebastian Bach—just listen to the whole thing and the way you think will change.

**Richard Black:** Well if you said that to Kant he would say: "I Kant."

**Leni Rubinstein:** Schiller in several writings develops the responsibility of the artist. The artist must strive to be an ideal man because it is his responsibility, whether the dignity of the human being is destroyed or is lifted up. That coheres with what Richard said, if you look at the so-called artists today, they're destroying the humanity in the individual, they are not artists.

Schiller calls upon every single one of us to strive through our entire life, to become a beautiful soul. You can never be completely perfect, be a totally beautiful soul, but you can strive your entire life towards that goal,

and your heart will become bigger and bigger, and your passions will aid in the effort, especially through classical art. Plato had the same idea with "the golden soul," to strive towards becoming a golden soul. And the Chinese philosopher Confucius, who lived a couple hundred years before Plato, had the same idea. The ideas of those two philosophers were not as developed, but I'm mentioning this, because it is a conception that great thinkers have had before Schiller. Confucius says that it is your duty to develop to the fullest all the capabilities you have been born with to such an extent that when you are 70 years old "you can follow what your heart desires without digressing from what is right." Further, Confucius says that of everything, love is the most important. If you don't have love, everything else does not count.

To repeat: Schiller asks every one of us to strive to become a beautiful soul. And he writes many beautiful philosophical writings that you can dive into and begin to discover what he's saying. Here is an example of Schiller on the beautiful soul:

> We call a soul "beautiful" when its moral sense of all human experience has become so steadfast, that it can confidently let its emotions serve to guide its own will, without any risk of coming into contradiction with its own decisions. The individual actions of the beautiful soul are therefore not moral in themselves, but rather are so by virtue of its entire nature... The beautiful soul possesses no other merit than its own existence. It performs humanity's most odious duties with the ease of someone acting out of a pure drive, and the most heroic sacrifices it extracts from its natural impulse, which appear to the observer as the mere free play of that drive. Hence the beautiful soul is never cognizant of the beauty of its own acts; it no longer occurs to it that one could act and feel otherwise.

That drive, that passion is *agápē*, of love on a higher level. And for Schiller, love, freedom, the beautiful, and reason are all concepts in the same realm. And love, *agápē*, is the emotion of the beautiful soul, the emotion that moves creativity. Now look at this quote from Schiller on love:

> The only free sentiment is that of love, for its pure stream flows from the fountainhead of freedom, from our divine nature. This is not the small and lowly man who measures himself against what is great and lofty; nor is it the mind giddily gazing up at reason's law—it is absolute greatness itself, which recreates itself in grace and beauty and is consummated in morality; it is the lawgiver himself, the God within us, which sports with its own image in the sensuous world. The soul, forever obliged to give homage to love, thus becomes dissolved into love, for here there is nothing to set limits, since there is nothing above absolute greatness, and since grace and beauty are where sensuousness, the only potential source of limits, comes into harmony with the mind's ideas.

Man is the living image of the creator, and classical art gives you access to that likeness. Just think about it: this which is divine in you, is accessed through classical art. Because the subject of classical art *is the creative process as such*. And let me also say that science applies that creative process in the discovery of physical principles. That is why when you had a division between *Geisteswissenschaft* (the Arts) and *Naturwissenschaft* (Sciences) it was culturally very damaging, because the two go together as a loving couple, so to speak. Nicholas Cusanus has the same idea of the likeness to the Creator, that when you strive to become more and more of a beautiful soul, then the lawful ordering of your mind is the microcosm of the lawful ordering of the universe, the macrocosm. And again, that all has to do with classical art and why this is so important to dive into. Classical art evokes this passion of *agápē*, love of yourself in a good way, love of the Creator, love of your neighbor, love of the world, love of beauty, love of truth. And the more you exercise it, the more it becomes the way you approach life, handle problems, solve problems, how you get ideas as to how to guide your life—it becomes your guidepost.

I want to give an example. I think most of you know that Beethoven wrote his ninth symphony in four movements where the first three movements create the basis for the fourth triumphant movement, where Beethoven uses a poem from Schiller that he had worked on—Beethoven had tried to figure out how could he use this poem for, I think it was 24 years, something like that. In the poem Schiller writes: "Joy, beautiful godly sparks!" where the "beautiful godly sparks" is the creativity of man, that which is the divine part of you. This is such a triumph, because here Beethoven creates this masterpiece of a celebration of man, and how we are all brothers, and what makes us that, is our creativity and love of truth and beauty, that we all can strive towards becoming a beautiful soul and thereby contribute to give the best possible future for mankind.

I would like now to look at some pieces of art and, I'm not going to discuss it that much. Let's begin with a quote from Lyndon LaRouche.

> All Classical art is premised upon the unfolding of an idea; All Classical art is premised upon the sense of beauty which the innermost cognitive processes of the individual mind experience from

those works of art whose content is change.

"*Whose content is change*." And the "*unfolding of an idea*."

I want people to have that in their mind because now we are going to take a poem that some of you might know and some of you might not. It is by [Percy] Shelley. He wrote it in 1817: "Ozymandias," and think about the unfolding of an idea and change, and how Shelley does it.

> I met a traveler from an antique land,
> Who said—"Two vast and trunkless legs of stone
> Stand in the desert... Near them, on the sand,
> Half sunk a shattered visage lies, whose frown,
> And wrinkled lip, and sneer of cold command,
> Tell that its sculptor well those passions read
> Which yet survive, stamped on these lifeless things,
> The hand that mocked them, and the heart that fed;
> And on the pedestal, these words appear:
> My name is Ozymandias, King of Kings;
> Look at my Works, ye Mighty, and despair!
> Nothing beside remains. Round the decay
> Of that colossal Wreck, boundless and bare
> The lone and level sands stretch far away.

Leni Rubinstein: So, you have "I" that meets the traveler. And then the sculptor speaks through what he has done in depicting Ozymandias with his frown and his wrinkled lip depicting that he is a nasty guy. Then you have the poet. And then the poem is kind of turned upside down. "Look at me, King of Kings, ye Mighty and despair!" because this was an attack from Shelley at the time on the mighty, that the poet endures. So it is a sweet, ironic poem by Shelley.

If you are not familiar with classical art forms, it is clear that it might take a little while before you begin to understand it, some people for example might not be used to listening to classical music—and some of the classical music you listen to might be terrible, but it's called classical. You might not be used to looking at paintings or architecture or reading poetry, but you can begin if you work on getting rid of the awful stuff in yourself, ugly stuff in yourself, and get it out of your world. Then, when encountering art, just think about: What does it enkindle in me? When I listen to a piece of music or if I see a painting, read a poem, what does it do to my mind and to my emotions? Does it create *agápē*? Is that coming up? Or lust? What is the view of man portrayed in the piece of art? Because you can only use yourself as a judge. I have found that there is no other way. You have to use your *own* mind and your *own* emotions to judge whether this is good or not. And then, of course, there's a lot of ugly things that have been



*Rubens, "Bathsheba at the Fountain" (1635)*

determined, as classical. I mean, Helga LaRouche made the point the other day that *The Rolling Stones* are considered classical!

I will now show you a comparison between some different pieces of art that are labeled "classical." And I will try not to say too much so people can just look at it themselves. I have a number of paintings by two classical painters that lived approximately at the same time, in approximately the same area in Europe, and that is Rubens and Rembrandt. What I am going to do is to take a couple of ideas from the Bible, ideas which both Rubens and Rembrandt painted. Take a look at them and go back and forth a couple of times, so you can get the difference between them.

The first example is Bathsheba. In the Bible, King David wanted to have sex with Bathsheba, so he sent her husband to the front lines so that he would be away, so he could have sex with her. In Rubens' painting, it's not easy to see, but up there to the left, King David is standing there looking down while Bathsheba is being prepared for him. Now look at Bathsheba's face, and consider what impression it gives you. Then look at the woman preparing Bathsheba. What kind of impression does that give you?



*Rembrandt, "Bathsheba at Her Bath" (1654)*

Now look at the exact same scene but this time depicted by Rembrandt. Bathsheba is being made ready for King David. Look at her face, and look at the face of the woman preparing her. I will not say anything more, just consider what impression you get from each of the two painters.

The next example is the prodigal son. First look at Rubens' *Prodigal Son*. It's in a barn, you can see the horses there to the left. It looks pretty agitated. The horses look agitated. Even the pigs look agitated. The only thing that looks a little calm is the cow lying down. Then all the way to the right is the prodigal son and a woman feeding the pigs. Now look closely: Can you see how the horses are agitated, with the muscles and everything? See, as a painter, you had to think about how to do that. It takes a lot of skill to paint horses like that. Then look at the prodigal son next to the pigs.



*Rubens, "The Prodigal Son" (1618)*

Now look at the *Prodigal Son* of Rembrandt. Look at the whole thing. The center, of course, is the father greeting his son. You can see the son has gone through some trouble, you can see his feet and the shoe is off of one foot and he's kneeling down in front of his father. Look at the son and the father: What does that ignite in your mind concerning the view of man that Rembrandt is portraying here? Forgiveness and love. Now think about how Rubens portrayed the scene with the agitated horses and the pigs and so forth.

Now I would like to up the ante a little bit. This one is by Rubens called the *Drunken Silenus*. Look at Silenus and the woman up there to the right of Silenus, the same kind of woman face—Rubens liked these kinds of women's faces. Look at what this black man does to this fat white man. Then on the bottom of the painting, you see a woman who is nursing her children while she's touching their genitals. What is the view of man and the view of a woman that this portrays?

Now I would like to show Rembrandt again. This is an old woman reading. Where's the light coming from?

I would like to show you another painting by Rembrandt which I saw in Los Angeles at The Getty museum, and I was completely stunned. What is going on here? Finally when I read the little brochure I got at the entrance, did I realize what was going on. Look at his hand, and look at the face. What does that evoke in you? This is St Bartholomew, who was skinned alive. And if you look at his



*Rembrandt, "The Return of the Prodigal Son" (late 1660's)*

hand, Rembrandt has tried to paint him skinned.

So Rubens and Rembrandt were very famous. Rubens' works were hanging in churches all over Europe. Some were big, huge paintings from floor to ceiling. All are permeated with *eros*, the kind of lust and a view of man that is not a divine view. That is not the view of man in the living image of the Creator, but more man as a beast. But Rubens is known as a "classical" painter. Therefore, wherever and whenever you encounter classical art, use your own judgment regarding what it creates in you, because you want to go for something that evokes *agápē*, that evokes something *good in you*, because *that* is the source for creative discovery and creativity. And that is what will give you strength to handle life in the best possible way, whatever life brings you.[1]

We had wanted to look at things from all over the world, so I would like to show you a couple of Chinese paintings. I do realize that it's difficult, if you do not have any knowledge of the Chinese language and of Chinese paintings, which are very, very special. In the West, a poet will write a poem and then Schumann or Schubert and others, Brahms—will put it to music and thereby create a higher unity of an idea. The Chinese do the same thing with their classical paintings, and they call paintings, "soundless poems."[2] So

1 American Classical painter, Thomas Eakins, wrote a letter to his father in 1869 while studying in Europe, in which he had the following to say about Peter Paul Rubens: "Rubens is the nastiest, most vulgar, noisy painter that ever lived. His men are twisted to pieces. His modeling is always crooked and dropsical and no marking is ever in its right place or anything like what he sees in nature, his people never have bones, his color is dashy and flashy[,] his people must all be in the most violent action, must use the strength of Hercules if a little watch is to be wound up, the wind must be blowing great guns even in a chamber or dining room, everything must be making a noise and tumbling about, there must be monsters too for his men are not monstrous enough. His pictures always put me in mind of chamber pots and I would not be sorry if they were all burnt."

2 For further study, see Leni Rubinstein, "The Great Art of China's 'Soundless Poems,'" *Fidelio*, Spring 1999.

https://archive.schillerinstitute.com/fid_97-01/99sp_leni_rubenstein_chinese_art.pdf

*Rubens "Drunken Silenus" (circa 1620)*







*Left: Rembrandt, " Old woman reading" (1655); right: Rembrandt, " Saint Bartholomew" (1661)*

when I first saw this painting, it drew me in, but I didn't understand why. You see a guy who is framed with the snow on the bamboo, and he's in the middle. Unfortunately it's not so clear, but if you see it in reality, you'd see his eyes are looking at you. This painting is from the Tang Dynasty, which was 618 – 907 A.D. He's looking at you from far away, but it's like he's right there—he's alive. Being curious, I asked a Chinese friend to come look at the painting together with me. He looked at the painting and facing me recited a Chinese poem—he knew instantaneously. I just learned the other day that several painters from different dynasties, for example from the Song Dynasty, have also painted paintings depicting this poem. Let's look at the poem:

> River snow:
>
> Thousand mountains no birds fly.
> Ten thousand foot paths, no trace of footprints.
> Solitary boat, an old man and straw coat and hat.
> Childless, fishing in the cold river snow.

The next example is a painting by Ma Lin from the Song Dynasty. The Song Dynasty began a few years after the Tang Dynasty ended. The dynasty began in 960 and lasted for 300 years. Both periods were great renaissance periods in China. During the Tang Dynasty beautiful poems and paintings were plentiful, but you need to know the language to really enjoy it. To repeat: you can have a painting that is inspired by a poem. The example with the fisherman is not the only time, where I discovered with the help of friends that "a painting was a poem."

Another unique aspect of Chinese paintings and Chinese poetry is Chinese calligraphy, because the way the Chinese character functions—is an art form in itself—they combine the painting and the poem on the painting, so it goes up in a higher unit. This is not a very clear slide. There are some birds flying in the left hand corner, it's an evening scene. And you see half of the painting is these two lines of Chinese characters, which is two lines from a poem. And the poem is also from the Tang Dynasty. So the painter is from the Song Dynasty, which was later, and the painter took a couple of lines from a poem from the Tang Dynasty, which was earlier.

Take a look at the calligraphy—the way you hold the brush when you write Chinese characters is the same way as you hold the brush when you paint. And there is a beauty when you begin to dive into a little bit more – an artist can interpret a poem by the way he writes the characters. Once I went to an exhibition called "700 years at the Western Lake" which exhibited paintings and poems over 700 years of a famous lake in Hangzhou, the Western Lake. I felt like I was at a concert, and I was there for a couple of hours and I couldn't believe what it did to me. That means there were some universal ideas conveyed since it could speak to me, although a lot of it I didn't understand. So anyway, that's the poem, that's half of the painting.

Now let me tell you first what the calligraphy says:



*"Fishing On A Snowy Day" (circa 900's)*




*Ma Lin, "Sunset" (1254)*

> Mountains hold the autumn colors near,
> Swallows cross the evening sun slowly.

Here is another quote from Lyndon LaRouche:

> This principle of valid creativity of composition and performance is the same for all art forms: music, poetry, drama, painting, and so on; the essence of Classical art is the evoking of *agápē* in the composer, the performers, and the audience, through evoking in each a summoning of creative powers of reason to address a problem which cannot be addressed successfully in any other mode.

So this is an introduction to a song by William Warfield, who used to be a very close collaborator of the Schiller Institute. He was actually a board member of the Schiller Institute. This is in October 2000 in Pasadena, and the song he's singing is "Take My Mother Home." Before we get going, I would ask you to again think, what does this evoke in you?[3]

And nobody clapped. One more quote from Lyndon LaRouche, please:

> Art is the mother of science, the spirit without whose nourishment scientific endeavor would fall lifeless. Art is the means by which men and women gain insight into those principles by which a successfully developing society must be ordered.

**Richard Black:** What does LaRouche mean: Art is the only mother of science? That it is art that gives birth to real science? Without art, there is no science. LaRouche has written many extended research papers in which he illustrates that the cognitive process that the artist goes through—or the composer, or a Rembrandt—in produc-

3 Here is the recording of Warfield's October 2000 performance in Pasadena, CA. The piece begins at 2:13:10:

https://youtu.be/1yikjICgQbo?t=7989

ing a work of art which evokes this quality of love, this quality of *agápē*, that cognitive process within the artist and in the audience listening *is exactly the same as the cognitive process that a real scientist uses in discovering new, unseen principles that govern the natural world*. And we're very fortunate, we're very happy, that in the modern period, two very extraordinary accomplished scientists, Max Planck and Albert Einstein, give us a report on how they made their discoveries—not *what* they discovered—but *how* they thought about their method of discovery. So, here is the first quote from Einstein:

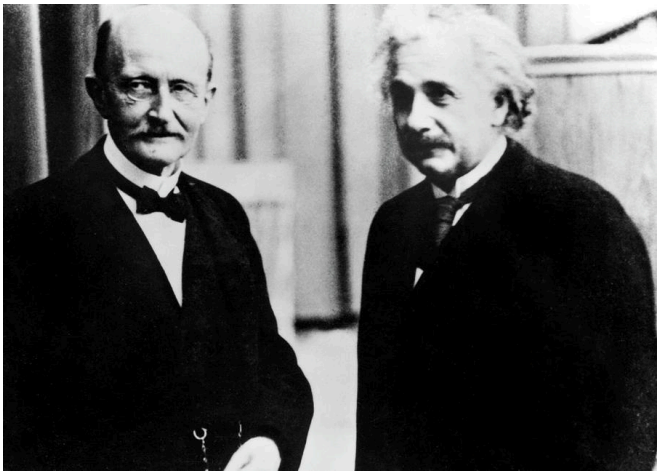
> Thus the supreme task of the physicist is the discovery of the most general elementary laws from which the world-picture can be deduced logically. But there is no logical way to the discovery of these elementary laws. There is only the way of intuition, which is helped by a feeling for the order lying behind the appearance, and this *Einfuehlung* [intuition, insight] is developed by experience. Can one therefore say that any system of physics might be equally valid and possible? Theoretically there is nothing illogical in that idea. But the history of scientific development has shown that of all thinkable theoretical structures a single one has at each stage of advance proved superior to all the others.
>
> It is obvious to every experienced researcher that the theoretical system of physics is dependent upon and controlled by the world of science-perception, though there is no logical way whereby we can proceed from sensory perception to the principles that underlie the theoretical structure. Moreover, the conceptual synthesis which is a transcript of the empirical world may be reduced to a few fundamental laws on which the whole synthesis is logically built. In every important advance, the physicists finds that the fundamental laws are simplified more and more as experimental research advances.
>
> He is astonished to notice how sublime order emerges from what appeared to be chaos. And this cannot be traced back to the workings of his own mind but is due to a quality that is inherent in the world of perception. Leibniz well expressed this quality by calling it a pre-established harmony...
>
> I have heard that [Max Planck's] colleagues are in the habit of tracing this attitude to his extraordinary personal gifts of energy and discipline. I believe they are wrong. The state of mind which furnishes the driving power here, resembles that of the devotee or the lover. The long-sustained effort is not inspired by any set plan or purpose. Its inspiration arises from a hunger of the soul.
>
> - Einstein's Introduction to Planck's *Where is Science Going?* 1953

Einstein discusses that the role of the physical investigator is to establish a truthful world picture. In a sense, he composes in the mind a world picture. Many of you may know that in 1905—Einstein was 26 years old at the time—he wrote a series of papers which revolutionized the way all men and women think about the universe as a whole. Whereas the view beforehand held that there were separate categories—matter, energy, space and time—and gravitation was the push and pull between objects, Einstein laid out a completely different world picture: the universe exists as a *physical-space-time continuum*, and that matter and energy are two aspects of a single unity, a single entity. Gravity is not a relationship between two objects, but is the warping of that space-time continuum. Here is Einstein speaking briefly about this:

> It followed from the special theory of relativity that mass and energy are both by different manifestations of the same thing, a somewhat unfamiliar conception for the average mind. Furthermore, the equation "E" is equal to "M C squared" in which energy is put equal to mass, multiplied with the square of the velocity of light showed that a very small amount of mass may be converted into a very large amount of energy, and vice versa. The mass and energy were in fact equivalent, according to the formula mentioned before. This was demonstrated by Cockcroft and Walton, in 1932, experimentally.

So, Einstein reports that the work of the scientist is to generate a new hypothesis, not a specific proposal, but a new picture of the world as a whole, in which he identifies invisible, unseen principles which were unknown heretofore. The drive, the trigger for such an investigation is that there is a problem which is unsolved anywhere, and it's the passion, the *agápē* within whom he calls "the zealot or the lover," which drives the scientist to find that new insight, that new intuition he calls a sublime order, which becomes clear from a scene, an array which looked, before, like nothing but chaos. In this period, Einstein developed the idea that gravitational waves exist, that gravity, far from being a thing among things, can propagate as waves. This was in 1915, and it took 100 years before scientific investigators were able to develop the apparatus to test Einstein's theory. Recently, in 2016, an array of scientists across the globe did experiments which showed that gravitational waves, in fact, exist, something which Einstein had conceptualized but not seen, 100 years earlier. So let's consider Max Planck, who also gives us a report on his method of discovery:

> It is not true, as has often been stated in physicist



*Max Planck and Albert Einstein*

> circles, that in the exposition of an hypothesis, the explorer must draw the material for his ideas solely and strictly from those original data, which have been definitely furnished by the results of research measurements. This would mean that the formative concepts which give shape to an hypothesis must be strictly independent of all theoretical origin. That is not so.
>
> For, on the other hand, every hypothesis—as a factor in the picture of the external universe presented by the physicist—is a product of the freely speculating human mind; and, on the other hand, there are no physical formulae whatsoever which are the immediate results of research measurements. The opposite is the case. Every measurement first acquires its meaning for physical science through the significance which a theory gives it.
>
> -Max Planck *Where is Science Going?* 1953

As people may know, Einstein was always working on the most difficult, the biggest problems, working to advance a new portrait, a new picture of the universe. Like the rest of us, he would at a certain point become emotionally blocked—come to a point where he could go no further. And for him, his friend that he then called upon was Mozart. He would get up from his study, walk into the next room, pick up his violin—he was an accomplished amateur violinist—and play Mozart. And after playing Mozart, having a conversation with Mozart, he would put the violin down, go back to his study, and take up the problems again. What occurred was not that he learned something from the music, but rather, the music allowed his mind to think musically, creatively, as he would then go back to the hard task at hand.

Planck also, when he was a young man, was an accomplished pianist. And one pathway for him, when he was in his twenties, was to become a professional pianist. Some of the elders said there's no future in that, you better get some practical work. So, he became a physicist. But, as soon as he began moving up the academic ladder, qualifying, the top physicists of his day said to him, "Well, you've got to realize that *all the fundamental discoveries in science have been made*, so you just have to find a little niche for yourself—don't worry about big ideas about the universe."

Of course, Planck had a different idea. A different identity! What does he emphasize? It's not the data. It's not the measurements. It's not the collecting of observations. It's not going into the jungle, watching the orangutans and writing down their activity, and you then come back and write a report: "This is what I saw." That's not science. Science is the motion of the mind. Science is the motion of the mind from a lower order to a higher order. And surprisingly, Einstein reports that the mind sees a universe more coherent, more harmonic, and more simplified as the insights flow and are verified by crucial experiment. And so, it's very much the case, as LaRouche would often say to his students: "My specialty is creativity." And this is one of the key things I would urge people to study in LaRouche's writings,[4] that the motion of the mind of the creative artist, and the motion of the mind of the scientist are one and the same substance.

Perhaps Leni can now introduce our friend, William Warfield, and we can see how he, like Planck, like Einstein, speaks to us and gives us a report of the nature of the aesthetical mind.

**Leni Rubinstein:** Warfield for sure lived up to what Schiller says about the responsibility of an artist, where he described how whether he was working on a lullaby or a German art song or a spiritual, he would use a minimum of 100 hours of working on it. At one point we had a workshop where in Los Angeles, some of the young people asked him, "How come you can get us to cry, but you don't cry?" And he said, "I do. I sit at my piano and work myself all the way until just before I break down. And then I know how far I can take you when I sing a piece of music."

Now to conclude, we will show a short speech Warfield gave at a Schiller Institute conference in 2001.[5]

**Richard Black:** And at the beginning, he's referring to Helga Zepp-LaRouche as "this wonderful woman."

**William Warfield:** Two things come to mind, which were triggered by the wonderful speech and the question that

4 See above article in this magazine: Lyndon LaRouche, "The Historical Individual," p. 3

5 Here is the recording of Warfield's speech at a Schiller Institute conference in Reston, Virginia in 2001. The transcript is reproduced below, but if you would like to follow along, the video can be seen here as well: https://youtu.be/E8wwL-yrREo

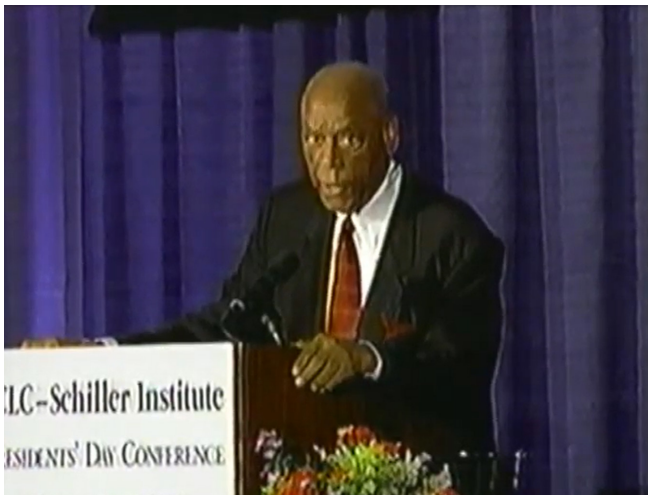
the lady asked. And from the standpoint of an artist, what do you do when you encounter people who have not been really exposed to beauty as you know it? And how do you show them, or how do you get them to start thinking in those terms? And the one thing that triggered, the big thing, which our wonderful lady said, is you have to *yourself*, get all of the ugliness out of your mind *first*, and then start taking on a thing of beauty and relate to those things that you feel are beautiful, that are contributing to man's soul, not to menial things of any sort. It will govern what you look at on TV. It will govern what you read. It will govern what you decide to participate in. And as a result, you find that beauty starts coming into *you*. And when beauty starts coming into you and consuming you, then there is no other way for you to react than to spread that to other people. And it's amazing how a youngster can look at you and see something in you, that will make him say, "What is that that I see?" It's sort of like people who say, "Oh, I can see auras, I can see an aura around a person when I see them" and so on and so forth.

This kind of a thing that I'm talking about is the core to which the artist responds when he is performing for you. I can no more sing to you a Heine poem without knowing or having experienced, whether it be Schubert, Schumann, without knowing the poem itself and what Heine has put down on paper, or what Goethe has put down on paper. And that is part of art. The technique is perfectly simple, as we've said. I can teach you how to sing, I can teach you how to produce notes, I can teach you how to phrase, I can teach you how to correctly say the words, I can teach you all of these things, but all of those things are merely the *tools* to express the beauty that is inside you. And when you have *that*, then you are ready to communicate that to other people.

Now, I'm not saying that one should set themselves up and just don't do anything except that which you say is considered beautiful. You've got to also be aware of what ugliness is, because you cannot avoid ugliness unless you kind of recognize the culprit when you see it. And as our wonderful lady has said, the oligarchy has so many ways of confusing you by surrounding things that seem beautiful, but when you investigate, you find underneath its ugliness. And that is the big thing with us. We have to examine things.

My father said something in his sermon once that has followed me all of my days and I was quite young at the time. He said, "The Bible says we should go into the hedges and highways. We should go out and we should bring men in and if a person is down, we should go down and pick them up and bring them up." And he said, "I warn you: If you are going to go into a nightclub, and see somebody there that you want to bring out, or you want to deal with a youngster that's doing dope, or you want to deal with any of the ugliness things of life, be sure when you go down there that you have the strength for *two* to come up." Because you have to come up and bring somebody with you! That's the strength of two. And this is the kind of a thing that I mean, when I say we've got to recognize, even know what we're dealing with and then how to combat it. And to me, it reminds me of a situation in which I was with Pablo Casals, the great cellist and conductor. And we were rehearsing something one afternoon, it was a Bach cantata, and it was one of those things in which everything happened in the rehearsal and we finished the piece and we just sat there in silence, with the catharsis of having experienced something great that had come amongst us while we were doing it. And I looked up and the maestro had a tear rolling down his cheek, and he said, "Aren't we fortunate to be musicians?" I've never forgotten that moment because he outlined for us the profession that we were in, is a profession of calling and a profession of art and a profession that when you're in, you are closest to God, I believe, because when you are performing you are a vehicle for that wonderful thing that we're getting from on high that comes through us and makes us a bigger person and makes us the vehicle to transport that to other people. But you have to be, as they say in television, "online" to get it. And I challenge you: get your act together so that you surround yourself with beauty, so that you surround yourself with an understanding of what evil is and how to combat it. And then when you look at a youngster who is out there on dope, you have something more to bring to him. You have the strength of two rather than yourself alone.

Thank you.



*William Warfield (1920 – 2002)*

**Richard Black:** That's the challenge to get our act together.

# Declaration:
# For World Peace: Stop the Danger of Nuclear War Now

Eight months into the war between Russia and Ukraine, with the active role of the United States and NATO, there are many dead and wounded, great destruction of all sorts of property, and very damaging economic and social consequences in Europe and the whole world, creating shocks which are worsening the very profound problems of the world economy, with consequences of a worsening crisis and greater unemployment, poverty and hunger.

It is known that this war can have far more serious consequences than what we are already suffering, including massive destruction and a crisis of global proportions never before seen, because it can lead to a confrontation with nuclear weapons between Russia and the United States and NATO.

Among the growing voices calling for a sensible approach, we highlight that of Pope Francis, calling for a negotiated, peaceful solution.

The undersigned political and social leaders, current and former legislators, and other elected officials from various countries, urge Russia, Ukraine, the United States and NATO to reach an agreement which, first of all, rejects the growing loose talk about the possible use of nuclear weapons and reaffirms the fundamental commitment of the Reagan-Gorbachev Formula of 1985, that "a nuclear war cannot be won and must never be fought." To be lasting, such an agreement must also establish a new international security architecture that recognizes and respects the legitimate security interests of all the planet's nations.

We recognize and emphasize that Russia, like the United States, NATO, Ukraine and all countries, has legitimate security concerns which must be taken into account and become one of the cornerstones of the new security architecture. A return to the successful principles of the 1648 Peace of Westphalia – respect for sovereignty, commitment to the good of the other, and forgiveness of debts that make true economic development impossible – is the kind of architecture we seek today.

The common good of the One Humanity is the obligatory premise for the good of each and every nation. In that way, among all the nations of the world we will be able to help build an organization of citizens in collective global action, and establish ourselves that way as a force to influence the international policy debate.

We call on people of good will around the world – notwithstanding our diverse and natural differences – to participate in this process of deliberation and search for peaceful solutions, including a thorough examination of the alternative economic policies to replace speculation, which has generated so much poverty and suffering, with a system of production and progress to meet the needs of a growing world population.

We reject all attempts to limit, intimidate, or prohibit such a deliberative process. And we call on the United States, NATO, Ukraine and Russia to advance in the direction that we present in this respectful call.

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**A third seminar of current and former elected officials and other political and social leaders of the world will be held on Nov. 22, under the above Declaration. The decision to convoke this third seminar was taken by the leading participants in the Second Seminar of Current and Former Elected Officials of the World, which was initiated by the Schiller Institute and met on October 27 in an online Zoom conference hosted in a conference room of the Mexican Congress.**

**The venue of the upcoming Nov. 22 event will also be the Mexican Congress, with a growing list of sponsoring institutions and adherents to the Declaration, which also serves as the invitation to this series of seminars. Political and social leaders from around the world are urged to add their names to this Declaration, as well as to register to attend. Because of the rapidly growing support for this initiative from around the world, as the danger of nuclear war escalates, the third seminar will be expanded to consist of two panels. Details will be**

**forthcoming.**

**Date: Tuesday November 22, 2022**

**Time: 9:30 a.m. – 4:30 p.m. (EST); 8:30 – 3:30 a.m. (Mexico City time)**

**Place: Chamber of Deputies, Mexico City; Zoom (with simultaneous interpretation in English, Spanish, German, and French; and schillerinstitute.com.**

**Please visit us at www.SchillerInstitute.com to register.**

INITIATING SIGNERS:

Donald Ramotar (Guyana); former President (2011-2015), former member of parliament (1992-2011, PPP)

Helga Zepp-LaRouche (Germany); founder, Schiller Institute

Jorge Robledo (Colombia); former Senator (2002-2022, Partido Dignidad)

María de los Ángeles Huerta (Mexico); former Congresswoman (2018-2021, Morena)

Dr. Kirk Meighoo (Trinidad & Tobago); former independent Senator (2004, United National Congress)

Dr. Rodolfo Ondarza (Mexico); former Representative, Mexico City Legislative Assembly (2015-2018, PT)

Diane Sare (U.S.); candidate for the U.S. Senate from New York (2022, independent/LaRouche)

ADDITIONAL SIGNERS:

Bolivia

Gen. Edwin de la Fuente Jeria; former Commander in Chief of the Armed Forces of Bolivia (2012-2013)

Brazil

Paula Cannabrava Filho; journalist, Editor of Diálogos do Sul

Colombia

Jennifer Pedraza Sandoval; Congresswoman

Luís Eduardo Peláez; state representative, Antioquia

Leónidas Gómez Gómez; state representative, Santander

Jorge Gómez Gallego; former Congressman

Diógenes Orjuela García; former Secretary General, CUT trade union confederation

Manuel Sarmiento Arguello; city councilman, Bogotá

Czech Republic

Vincenzo Romanello (Czech Republic/Italy); Ph.D., Senior Nuclear Researcher and Project Manager, National Radiation Protection Institute (SURO)

Dominican Republic

Ramón Emilio Concepción; former presidential precandidate (2020)

Italy

Sergio Tancredi; former member of the Sicilian Parliament (2017-2022)

Antonio Ingroia; former anti-mafia judge in Sicily; candidate for Prime Minister (2013)

Alessia Ruggeri; trade unionist, Comitato per la Repubblica

Mexico

Benjamín Robles Montoya; Congressman (2018- ); former Senator (2012-2018)

Elpidio Tovar de la Cruz; former Congressman (2003-2006)

Claudia Yáñez Centeno; former Congresswoman (2014-2017)

Alberto Vizcarra Osuna; former Sonora state representative (1988-1991)

Dr. Sergio Pablo Mariscal Alvarado; former Mayor, Ciudad Obregón (2018-2021); engineering professor, Sonora Technological Institute

Emeterio Ochoa Bazúa; former Sonora state representative (2015-2021)

Antonio Valdez Villanueva; former Sonora state representative (2009-2012); Under- secretary General of the Mexican Labor Confederation (CTM) in Sonora.

Netherlands

Dr. A. J. (Guus) Berkhout; Professor-Emeritus Geophysics, Technical Univ. of Delft; President of CLINTEL

Peru

Juan Pari; former congressman (2011- 2016)

Alberto Quintanilla Chacón; former congresmman (2016-2019)

Roberto Vela Pinedo; President, Association of Economists of Peru

United States

Richard Black; former Virginia state Senator (2012-2020), former member Virginia House of Delegates (1998-2006)

Graham Fuller; former U.S. diplomat, CIA official, and Islamic scholar

Dr. George Koo; International business advisor, retired

Dr. Mohammad A. Toor; Chairman of the Board of Trustees, Pakistani American Congress

Bradley Blankenship; Journalist

Bob Van Hee; Commissioner, Redwood County, Minnesota

Venezuela

Román Rojas Cabot; former Venezuelan ambassador to the European Community, Brussels

Emil Guevara Muñoz; former member of the Latin American Parliament (2006-2011)

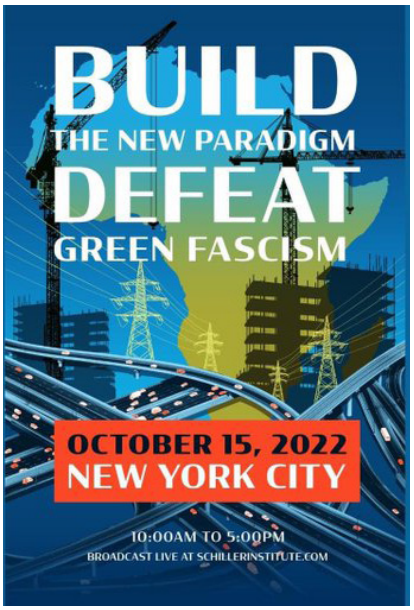
Yemen

Dr. Fouad al Ghaffari; Advisor to the Prime Minister for BRICS Countries Affairs; President of Yemeni AL-BRICS Youth Parliament

# The LaRouche Movement is Breaking Out

A series of breakouts for the LaRouche movement has come in the weeks following the October 15 Schiller Institute Conference "Build the New Paradigm: Defeat Green Fascism," which had a catalytic, inspirational effect on experienced activists and the growth of a new LaRouche Youth Movement. Additionally, the feisty and polemical campaign of Diane Sare, LaRouche candidate for U.S. Senate in New York, drew a substantial amount of media coverage. The lid on the truth is coming off.

The threat of civilization-ending thermonuclear war has been forcefully brought into the public conversation through effective interventions at offline events held by U.S. senators, representatives, and a past president, as well as through organizing in the other contemporary town square — the internet. Millions of people have now seen their leaders challenged to take seriously their responsibility to chart a course for the nation that does not lead to nuclear armageddon, and seen the failure of those leaders to rise to the challenge.




It is now clear that if you're looking for leadership, particularly in the United States, you'll have to provide it yourself. And you should work with the LaRouche movement to do so!

We provide here a summary of the October 15 conference in New York City, which has now catalyzed a new youth-led process internationally.



*LaRouche organizer and Diane Sare campaign activist, Jose Vega, confronting Alexandria Ocasio-Cortez at a town hall in the Bronx, NY*

## Schiller Institute Conference, Youth in the Lead

Based out of New York City, a day-long international policy conference sponsored by the Schiller Institute was held today online, and in-person in Manhattan, titled, "Build the New Paradigm, Defeat Green Fascism." [1]The powerful event was designed and conducted by "next generation" leaders, and involved 26 speakers (some live, some online, and some by pre-recorded video) of all ages from seven nations (U.S., Haiti, South Africa, France, Germany, Yemen and China). The two panels of speakers featured lively discussion sessions, with questions from the room, and around the world, including Peru and Uganda.

The audience directly attending numbered in the range of over 600 (with over 100 at the full house audience in Manhattan), plus there were hundreds more,

1 The video of the full conference, including a listing of all speakers, is available on the Schiller Institute site: https://schillerinstitute.com/blog/2022/10/14/conference-build-the-new-paradigm-defeat-green-fascism/




*October 15, 2022 Schiller Institute "Build the New Paradigm, Defeat Green Fascism"*

counting the group meetings in many nations, at universities, other institutions, and informal settings connected livestream.

The following account, by topic, reports on a few of the speakers, and gives an idea of the breadth of the discussion. The transcript of speeches from the first panel appear below in this briefing.

The sessions opened with music, beginning the morning with a solo spiritual, "He's Got the Whole World in His Hands," and the afternoon session, with a 12-voice youth chorus, singing the canon "Dona nobis pacem," and Bach's setting of the chorale, "Jesu, meine Freude."

The moderator was Daniel Burke, a leading Schiller Institute educator, based in the New York-New Jersey region, who presided over both the livestream and in-person audience. Burke himself is known in New Jersey for his run in 2020 as an independent ("LaRouche Was Right" Party) against incumbent U.S. Senator Cory Booker, who currently is a national Democratic Party spokesman for wars in Ukraine, Syria and elsewhere, and who backs sweeping legalization of narcotics at home.

"We gather here today in the midst of extreme danger," Burke opened, and described the purpose of the event, "to strengthen and grow an international movement with powerful youth leadership." Saying that, "We see an era of the World Land-Bridge" as now possible, Burke began the deliberations with an historic video from statesman-economist Lyndon LaRouche, who stressed the point that, "We must choose a new road" for mankind. In particular, we are called upon "to use the crisis to discredit the enemy of ours within."

## Zepp-LaRouche: 'One Humanity First'

There were two conference keynotes. Schiller Institute founder Helga Zepp-LaRouche addressed the first panel. Independent LaRouche candidate for U.S. Senate from New York Diane Sare opened Panel 2.

Zepp-LaRouche, who began with her view that "the war can be won for a better future," then made reference to the dramatic example of what happened only three days earlier in New York, when two young men succeeded in "ripping apart the sheep's clothing from the warhawks!"

On Oct. 12 at a Town Hall in the Bronx, Rep. Alexandria Ocasio-Cortez (D), "AOC," was confronted publicly by LaRouche movement organizers Kynan Thistlethwaite and José Vega, for her complicity in causing the danger of nuclear war, her total backing of U.S. arms to Ukraine, including funding known Nazi elements, and her hypocrisy in claiming to be a "progressive." The pair contrasted her with former Congresswoman Tulsi Gabbard, who had the courage and leadership to quit the Democratic Party one day earlier, denouncing the Democratic Party warhawks. The AOC video has gone viral, with multimillions of views internationally, and coverage all over in print.

Vega and Thistlethwaite spoke on the second panel. Thistlethwaite quoted from poet and political activist Percy Shelley, and urged everyone to intervene to go see their Congressmen, and "break the complacency of people in the West, and the United States." Vega likewise urged action, quoting from Shakespeare that, "there is a tide in the affairs of men, that taken in the flood, leads on to fortune…."

Zepp-LaRouche summed up the present situation as being "an early phase of a world revolution." If we can pull the world back from the brink of nuclear war, the world youth movement is playing a major role in building a new system. And this conference is a major part of that. She stressed the importance of the upcoming Schiller Institute conference on Oct. 27, instigated by the Oct. 7 meeting of Ibero-American current and former legislators who seek to collaborate with leaders from all around the world, to sound the voice of reason and policy.



*Left: LaRouche Independent candidate for U.S. Senate in New York, Diane Sare. Right: Jackson Hinkle, journalist*

It is morally unacceptable that billions of people lack water, food, power and means of life, which amounts to conditions of "colonialism in new clothes." It is time we create an "international movement of world citizens" to change this. We need a "one humanity first" movement.

## Candidate Sare: Culture of the Good

Senate candidate Diane Sare, saying that she wanted to address arming ourselves spiritually, emotionally, and culturally for the fight we're in, presented some history of the psychological subversion of Western society done by Bertrand Russell, his fellow-criminal Theodor Adorno, and others. Sare provoked the audience to think through the difference between shallow thinking and "soggy sentimentalism" in contrast to cultural depth, by having everyone together sing two well-known songs of these two types. First, the words to "Amazing Grace," and secondly, the spiritual, "Were You There?" She concluded her talk with a video of Elvira Green, former Metropolitan Opera mezzosoprano, presenting, "Were You There?" at a concert from a few years ago sponsored by the Schiller Institute New York City Chorus, which Sare co-founded.

A report on beautiful work for classical music in grade school was given by a young teacher from Chicago, Dana Anex. She is teaching violin and other stringed instruments, and has an after-school strings program. Anex presented the principles of the curriculum she has developed and wants to spread elsewhere, in collaboration with other educators.

## Economic Crises, Green Fascism

Several presentations, and exchanges in the discussion periods, addressed questions of physical economic crises, and the green fraud. Many spoke out forcefully for how the "energy poverty" in Africa and elsewhere must end. From South Africa, Princy Mthombeni, founder of Africa4Nculear, scored the disgusting hypocrisy of COP26, the Group of Seven, and other Western institutions trying to prevent modern power development in Africa by using the excuse of "Clean Green" and "Global Gateway" programs. This is "green fascism," she insisted.

Jackson Hinkle, a U.S. journalist, blasted the "degrowth, depopulation, Malthusian" operations going on today, which are targeted against specific groups. He detailed different sectors, from farmers who are experiencing "death by debts," to others. Look at the impact of the international sanctions. Do we "need to sanction Russia into oblivion?"

Fox Green, of the U.S. "Space Commune," reported on New York's Hudson Valley, which once was home to productive economic activity—textiles, brick-making, cement—and now has degraded. We are seeing the "degrowth economy" reach the stage of "controlled demolition."

Green and many speakers drew out the picture of devastation from green mandates. Sameera Khan, for example, who is a U.S. journalist, discussed how she personally was involved in anti-climate change activities, but "then I grew up." She asserted that, "there is no climate emergency," as scientists have informed the UN. But there are censorship operations being prepared, which go beyond stigmatizing those who say that, to charging anyone with that view, as guilty of hate speech.



*Left: Megan Dobrodt, President of the Schiller Institute in the U.S. and a member of Lyndon LaRouche's science team. Right: Dr. Will Happer, Cyrus Fogg Brackett professor of Physics, Emeritus, Princeton University.*

## Science and Relative Population Potential

Eminent physicist Dr. Will Happer, Cyrus Fogg Brackett professor Physics, Emeritus, Princeton University, spoke on a short video debunking the idea that carbon dioxide is a menace. He said $CO_2$ is "the stuff of life." He provided key facts of context, pointing out that by geological history, $CO_2$ levels today "are much lower than they ought to be." Look how greenhouses double or triple their $CO_2$, to get much-improved plantlife.

Megan Dobrodt, who is the President of the Schiller Institute USA, gave a presentation beginning with the point that, "the world is very underpopulated." If we apply the science, technology and projects that express technological improvements, we have a vast potential for more people. How many? Lyndon LaRouche, in a Dec. 10, 1988 speech to the Schiller Institute Food for Peace conference in Chicago, spoke of 100 billion. The great scientist Vladimir Vernadsky in the 1930s spoke of 3 trillion people!

What we do with making scientific breakthroughs, and applying them, is to literally create our environment. We are not confined by happenstance resources. That is how to look at the challenge of travelling and establishing settlements in space.

This concept of development was implicit in the report given on China's infrastructure projects in Africa, by Shexiu Huang, who is a postgraduate at the Guangdong Institute for international Strategies, at the Guangdong University of Foreign Studies. She presented maps of the new railroads in Ethiopia and Kenya, and other aspects of development, including education.

Jason Ross, the Executive Director of The LaRouche Organization, addressed head-on the approach required for what he called, "A Thought-Through Plan for the Future." We are involved in expanding the "human carrying capacity on Earth." He gave a history of improvements from the period of the Iron Age to the present, to provide perspective on how deliberate we must be. He also gave a history of what development programs have been presented by Lyndon and Helga LaRouche and associates over the past half-century, from Africa, to India, to Eurasia and the Americas. Ross denounced the way that "the discovery process" is not addressed at all in schools, but it is fundamental.

Ross urged everyone to be deliberate about "what you are willing to take on, to make yourself a leader for the future." He will be working with people on a series of classes in science, music and other subjects to provide the leadership that the world demands of us today.

## A 'Voice of Reason'

There were many other presentations, from Haiti, Yemen, the U.S., and elsewhere, which cannot all be summarized here, but most importantly, they included several spokesmen from France and Germany on the severity of economic breakdown in Europe, and the imminent threat of nuclear war.

Helga Zepp-LaRouche summarized our situation at the end of the discussion in the first panel. We are in a very short countdown to World War III, but at the same time, at the beginning phase of a world revolution. "We have to make a break," so that we have to think differently. Nations have to give up self-perceptions of having exclusive interests, in a world of zero-sum calculus. Instead, we have to make the jump to think as world citizens. If we do that, and speak out as a chorus of voices, saying we need a different order, we can succeed.

Zepp-LaRouche called on the youth movement to play a leading role—to be ambassadors—in creating an international movement of world citizens. It is urgent for "citizens of all countries to unite to stop World War III and create a better world."

# LaRouche Youth Movement and Friends Put Themselves on the Line

## By Anastasia Battle

In the spirit of the civil rights non-violent direct action, we have taken on the responsibility to save humanity from a nuclear war — a war which no one would ever survive. We ask for every thoughtful and loving person on this planet to stand with us. You are not alone. You are not crazy. You have within yourself a potential for great change. What holds us back from doing the things necessary for the greater good? Losing your job? Losing your family? Losing your life?... In times such as these, it's important to lean upon the great thinkers of the past.

> You may be 38 years old, as I happen to be. And one day, some great opportunity stands before you and calls you to stand up for some great principle, some great issue, some great cause. And you refuse to do it because you are afraid.... You refuse to do it because you want to live longer.... You're afraid that you will lose your job, or you are afraid that you will be criticized or that you will lose your popularity, or you're afraid that somebody will stab you, or shoot at you or bomb your house; so you refuse to take the stand.
>
> Well, you may go on and live until you are 90, but you're just as dead at 38 as you would be at 90. And the cessation of breathing in your life is but the belated announcement of an earlier death of the spirit.
>
> — Martin Luther King Jr.

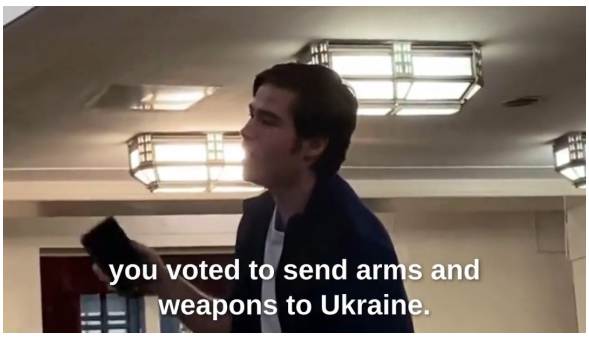
If we can stand against Empire now, break through the paper tiger of popular opinion, what is there left to stop a renaissance for mankind? Imagine what we could accomplish? Imagine what future you could provide for those children yet unborn?

Below are a few selections of the American LaRouche Youth Movement and friends, putting themselves on the line to create that future for humanity.

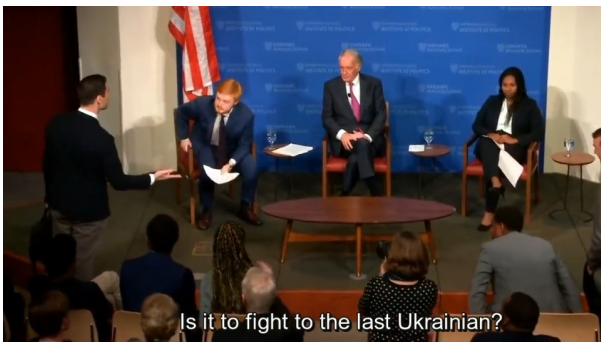
Please reach out to us at at Leonore@SchillerInstitute.org if you want to get involved.

To see the full videos of these interventions, and more that were done, see here:

https://twitter.com/JosBtrigga/status/1589764333395144704?s=20&t=soO4YgFDdMsiAP9vszL3lA




*Activists Jose and Kynan intervene on Congresswoman Ocasio-Cortez, declaring that she was playing with our lives because she voted to send weapons to Ukraine. None of the party politics would matter if we all died in a nuclear war. See exchange here.*



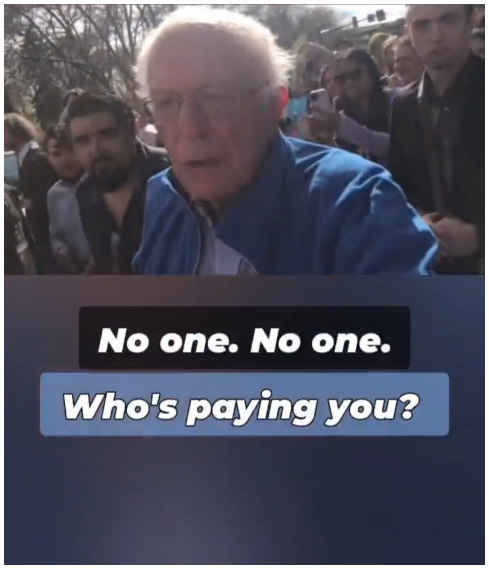

*New activist Sam confronts Senator Ed Markey and asks "What is your policy in Ukraine? Is it to fight to the last Ukrainian?" This was Sam's second senator he confronted in one day. He joined LaRouche member Bill Ferguson just hours before confronting Senator Elizabeth Warren. See exchanges here and here.*




*Activists Anastasia and Stewart Battle confront the President of Warmongers, Former President Obama, declaring "You overthrew Ukraine in 2014!" and "How many of your supporters will die in a Nuclear War?" [See the exchange here](#).*




*Warmonger, Former Secretary of State, Mike Pompeo, was confronted by activists Kynan, Jose and Ben declaring that he was "No different than Obama." [Watch the exchange here](#)*




*Activists Nick Brana and Jonathan ask Senator Bernie Sanders "Why are you funding Nazis in Ukraine?" His response was to ask these activists "Who is paying you?!" Why does someone need to be paid to be anti-nuclear war Sen. Sanders?!*
*[Watch the exchange here](#)*




*Activists Mike, Lucy, Michelle, Kynan and Dewey confront President Joe Biden at a rally, asking him to take Pope Frances' offer for peace talks at the Vatican. "There are American boots on the ground! This puts us in danger of Nuclear War with Russia!" [Watch the exchange here](#)*




*Brand new activist Peter decrys Vice President Kamala Harris "More unhinged than a Dick Cheney Neo-con!" He was inspired by the LaRouche movement activities and took it upon himself to respond. [Watch the exchange here](#)*




*Musicians gather in front of St.Patrick's Catholic church in NYC to sing "Dona Nobis Pacem." Join the international chorus for Peace. [Watch here](#)*

# Two Poems on Ozymandias

By Philip Ulanowsky

Poetry by its true nature is never merely pleasant-sounding verse. Composed in the capable mind it draws on the power of metaphor, of irony, to evoke from us a new thought from beyond the poem itself, be it humorous or profound, a marriage of thought and emotion able to inscribe itself into our memory and make us better for it.

English poet Percy Bysshe Shelley (1792–1822) and his friend Horace Smith (1779–1849), a banker as well as writer, occasionally engaged each other in competition to write a poem on the same subject. In this case, in 1817, the context was set by the British museum's purchase of a famous fragment of a colossal statue of Ramesses II. A passage from the writings of the Greek historian Diodorus Siculus (1st Century B.C.) was chosen, reporting the inscription on such a statue: "King of Kings Ozymandias am I. If any want to know how great I am and where I lie, let him outdo me in my work."

Here, we offer both poems, at a time when today's metamorphosis of the British Empire, the western oligarchy prominently manifest in the City of London and Wall St.'s financial imperialism, arrogantly proclaims its right of dominion over every nation, to serve it's insatiable appetite, with the most dire consequences for any who challenge its rapacious "rules-based order."

The differences between the two poems offer us an insight into the creative mind. The Classical artist does not simply imitate nature, society, or the heavens; he or she illuminates them for us to discover something important, implicitly universal, using the subject matter as the vehicle. Here, long-abandoned fragments of a monument to earthly power, lie in a desolate desert. Shelley chose a sombre tone, while Smith, with a wry smile, turns his poem to reflect on the assumed greatness of contemporary London. Is there not something, in these brief lines from two centuries ago, that resonates today and suggests how we might avoid repeating the errors of past history?

## Ozymandias

By Percy Shelley

I met a traveller from an antique land
Who said: "Two vast and trunkless legs of stone
Stand in the desart Near them, on the sand,
Half sunk, a shattered visage lies, whose frown,
And wrinkled lip, and sneer of cold command,
Tell that its sculptor well those passions read
Which yet survive, stamped on these lifeless things,
The hand that mocked them and the heart that fed:
And on the pedestal these words appear:
"My name is Ozymandias, king of kings;
Look on my works, ye Mighty, and despair!"
Nothing beside remains. Round the decay
Of that colossal wreck, boundless and bare
The lone and level sands stretch far away."

## Ozymandias

By Horace Smith

In Egypt's sandy silence, all alone,
Stands a gigantic Leg, which far off throws
The only shadow that the Desert knows:—
"I am great OZYMANDIAS," saith the stone,
"The King of Kings; this mighty City shows
The wonders of my hand."— The City's gone,—
Naught but the Leg remaining to disclose
The site of this forgotten Babylon.

We wonder,—and some Hunter may express
Wonder like ours, when thro' the wilderness
Where London stood, holding the Wolf in chace,
He meets some fragment huge, and stops to guess
What powerful but unrecorded race
Once dwelt in that annihilated place.

# The Schiller Institute is building a coalition to stop World War III

Helga Zepp-LaRouche, founder and chairwoman of the Schiller Institute, warned in Fall of 2020 that the world was headed towards a new world war. Unfortunately, her warnings went unheeded, and have turned out to be all too true. In March we launched a call for a "New Security and Development Architecture" for all nations as the only way to resolve the causes of war. This escalated in April when we hosted an international conference on the same subject, drawing on experts from around the world who discussed the need for new arrangements to exit from today's unipolar world. The role played by the Schiller Institute has only grown since, with an increasing number of diplomats, activists, journalists, academics, and other experts having joined with us in demanding an end to the dangerous drive to war and a peace agreement that takes into consideration the interests of all nations.

As proof of the central role we are playing, Helga Zepp-LaRouche and 30 other prominent members or friends
of the Schiller Institute have been placed at the top of Ukraine's Center for Countering Disinformation "hit list" as well as the more sinister "Myrotvorets" list, widely seen as a "kill list." The war-hungry Ukrainian government's discovery of the central role of the Schiller Institute is also known by the rest of the Western establishment, though no one else has dared to admit the truth.

## Become a recurring member of the Schiller Institute!

https://schillerinstitute.nationbuilder.com/membership

## And enjoy our recent conferences!







